

NEW WORLDS SCIENCE FICTION

No. 54

2/-



NEW WORLDS

— PROFILES —

J. G. Ballard

London



Was born in Shanghai twenty-five years ago and has spent most of his life travelling, with the exception of two and a half years in a Japanese internment camp. He first came to England after the war. From Cambridge he went into copywriting, then flying in the RAF, and now works as a script-writer for a scientific film company.

After winning the annual short story competition at Cambridge in 1951 he wrote his first novel, a completely unreadable pastiche of *Finnegans Wake* and the *Adventures of Engelbrecht*. James Joyce still remains the wordmaster, but it wasn't until he turned to science fiction that he found a medium where he could exploit his imagination, being less concerned with the popular scientific approach than using it as a springboard into the surreal and fantastic.

Most of his own ideas come, if anywhere, from visual sources : Chirico, the expressionist Robin Chand and the surrealists, whose dreamscapes, manic fantasies and feedback from the Id are as near to the future, and the present, as any intrepid spaceman rocketting round the galactic centrifuge.

Outwardly, at any rate, he lives quietly in Chiswick with his wife and baby son Jimmie. He admits that though she doesn't actually write his stories his wife has as much to do with their final production as he has himself. She hopes to have his novel *You And Me And The Continuum* finished by the end of this year.

Mr. Ballard's debut into science fiction was made in the current *Science Fantasy* with "Prima Belladonna," a fascinating story dealing with musical plants. Of the genre in general he says "Writers who interest me are Poe, Wyndham, Lewis and Bernard Wolfe, whose *Limbo* 90 I think the most interesting science fiction novel so far published."

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Back to Normal

It seems a great pity that I had to travel 3,000 miles to find some sunshine this year while people in the British Isles were endeavouring to survive the Second Deluge. But, in case you have the impression that my recent trip was an idyllic cruise, let me hasten to say that John Wyndham's *krakens* appear to be in complete control of the central Atlantic stirring up gales and rough seas in a permanent storm centre. However, it was more than pleasant to return from the New York World Convention and get back to cool air and grey skies, left-hand drive, football pools, warm beer, and no commercials on the BBC.

By the way, did you see any of the instalments of "The Mystery Of Planet X" on ITV? I was pleasantly surprised and pleased at the high standard of this new British serial, which has been written by René Ray, and is up to the quality of the earlier "Quatermass" serials on BBC. The first "Quatermass" film was showing on Broadway when I was there but had been ousted in popularity by John Huston's "Moby Dick," for which, you may remember, author Ray Bradbury wrote the film script. A number of other so-called science fiction films were showing, prominent amongst which was Columbia's "Earth v Flying Saucer" which has not yet been shown in Britain.

New York was humidly hot—authors wishing to write about the "steaming Venusian jungles" should pay a trip to America's canyon city for the right atmosphere. Travel by bus or subway was an exhausting pastime enlivened only by an occasional thunderstorm, but I did pick a cool evening to visit the Hayden Planetarium where the feature show was centred round the planet Mars. This was one of the highlights of a three-hour stay packed with interest—the first hour being spent in a conducted tour of the various exhibits which included giant meteorites, a working model of a "Viking" rocket taking off (at which small boys by the dozen lined up to work the control mechanism) giant murals of the galaxy and star systems lit by ultra-violet light, and weighing machines which showed Earth-human weight on any of the planets of the Solar System.

The second hour was spent in the ground-floor auditorium where a working scale model of the Solar System was set in the roof, and then finally to the Dome itself where the night sky could be seen in all its splendour (by projection) and Mars was discussed in all its known aspects.

After the World Convention had ended and the hundreds of out-of-towners had gone home there still remained a large number of local amateurs and professionals to talk with, including author Arthur Clarke, who was just preparing to set out on a lecture tour of most of the States which will last him until next May. The major topic of discussion was next year's World Convention to be held in London. In conjunction with David A. Kyle, this year's Convention Chairman, I had several meetings in the New York office of the Haley-Lunn tourist organisation and with a representative of Pan-American Airways discussing the proposed scheme for a charter plane from New York to London next September.

A 71-seater DC6B strato-cruiser has tentatively been chartered at an approximate cost for the eastbound flight of \$115.00 per person. It is even possible that a second plane may be required, as advance enquiries have been heavy. So far, no return flight has been arranged, it being thought that once in Europe visiting Americans will want to see as many countries as possible, but should sufficient delegates decide to return together within fourteen days a plane will be allocated at an approximate cost of \$150.00 for the westbound crossing depending upon the number of applicants. *Interested Americans who read this should contact Mr. Kyle at 300 West 67th Street, New York 23, no later than January 31st next* as the second plane fare will probably cost \$125.00 per person eastbound.

By the time I left New York in late September a number of Americans had already booked passage by ship, intending to make a European holiday a "must" for next year with the Convention in London the springboard for France, Switzerland and Italy.

While September 1957 seems a long way off at the moment, a great deal of work is necessary to make a World Convention successful, and by the time I reached London I found that the British Committee were already hard at work extending their plans for next year. Readers may not realise just how important next year's Convention is for European science fiction—it comes at a time when the genre is being accepted as a part of mainstream literature and a seriously constructive Convention will do much to enhance its reputation. It is essential, therefore, that everyone interested in the medium should make every effort to ensure its success.

Commencing in the new year I propose to publish a regular column of news and information about the World Convention as part of our service to the readers of this magazine and to the Convention Committee.

John Carnell

THE EXECUTIONER

When tests vital to the security of any one nation (or planet) produce a high casualty rate amongst those who volunteer to act as "guinea pigs" who is to decide when such tests become virtual death warrants? And how far down the scale from supreme authority is the "can to be carried"?

By Alan Barclay

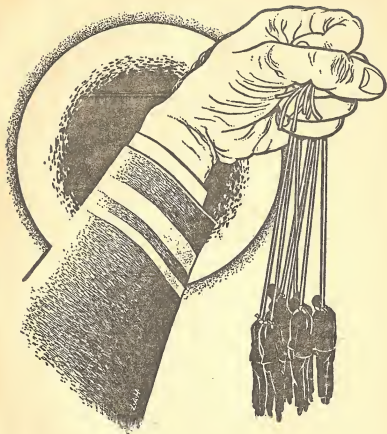
Illustrated by HUTCHINGS

Colonel James Roy Burton sat composedly in the observation coach of the mono-rail car and watched the lunar landscape, lit by the weird green glow of earth-light, stream past.

He wore the smart black uniform of the recently created United Nations Space Service. It was new, uncreased, and it fitted him perfectly; every button was fastened; his calf-length boots were polished till they shone, and his cap was set at the correct angle. Reposing on his knee was a brown leather brief-case.

Any observer—there were a number of observers in the car, mostly technologists and such-like going out to Base One—would have classified him as a typical military type: precise, decisive, intelligent, but not too intelligent, with little imagination and no sense of humour.

They would have been wrong. Underneath the correct exterior of Colonel Burton, an exterior which had been shaped by twenty years of Service life, there lay the soul of a romantic. At the age of eighteen, intoxicated by the dream of man's escape into space, he had joined the U.S. Air Force, believing that this particular organisation would get out there first. He was right about that, although he had to wait ten years to see them do it. He himself had not been in the first ship to the Moon, nor the second, nor the third, but he had not been soured by these disappointments. He continued to prove himself thorough, determined and conscientious, and eventually as the business



of space expanded, he got out there in his turn. Recently, when the United Nations Space Service was created, he transferred to it.

Further proof of his romantic nature was the fact that only two months ago at the age of thirty-eight, he had married for the first time. Just as he had cherished the dream of space right from his schooldays, so he had entertained the hope of meeting and marrying his ideal woman. He could never have put into words what that

ideal was, he could never have specified her size, the colour of her hair, or the quality of her mind, but he was perfectly certain he would recognise her when he met her.

He clung uncompromisingly to this dream for twenty years, then he met her and recognised her, and eventually married her. Now she was out here with him on Luna. You might say he was the most fortunate man alive, an idealist with two dreams, both of which had come true. But idealists are funny people. Although he was well aware of his good fortune, he spent part of his time wondering anxiously whether it would continue. His wife was twelve years younger than himself. Would she become disillusioned about him? Would she come in time to think him fussy, and stale and unexciting—would she presently notice the hair in his ears, and decide one day that he was just a stodgy middle-aged chap?

Then his job . . . As he sat in the mono-rail car, he was worrying mostly about that, for the job he had come out here to do could easily break him. Even if it was successful—especially if it were successful, he reflected grimly—it might break him. In either event it was not likely to increase his popularity. The unpleasant smell of the job he was about to undertake would probably hang around him the rest of his life. It might even affect his relations with his wife if she got to know about it.

The mono-rail sped towards the beetling slopes of the M'Kinder range, then as the mountains closed in around it, it appeared to hurl itself at the face of the rock. Just when it seemed on the point of smashing itself to pieces, it dived into a tunnel, and screamed along into the heart of the mountain. A pause while an airlock was operated, then the coaches moved forward. Another pause, and they jolted into the lights and bustle of Base One.

Colonel Burton was directed to the office of the Base Commandant.

"Happy to meet you, Colonel," said the latter. "We've had orders concerning your arrival. I've had accommodation prepared for you—a private office and an adjoining room for a secretary. Telephone laid on. I'll detail a clerical grade to serve with you."

Burton listened with the ear of experience to the man's words, and registered satisfaction. The Commandant was an experienced efficient officer who knew his job.

"Thank you," he said. "I'd like to make contact with the officer i/c the Development Section. I'll be working in collaboration with him while I'm here."

The Commandant nodded knowingly. Being an Admin. Officer he did not know the technical details of Colonel Burton's mission,

but as Commandant it was necessary that he should appear to know everything that went on in Base One.

"I'll get a messenger to show you your quarters and your office. When you're fixed up there he'll take you to the Development Section."

"Thank you," Colonel Burton said. "Have my pilots arrived?"

"I think they've all checked in," the Commandant replied, glancing at a list. "Lieutenants Barry, Levitski, Stromberg, Thane, Rogers, Pereira and Howard . . . Right?"

"I don't know their individual names, but seven is the correct number."

The messenger conducted Colonel Burton along the maze of intersecting corridors to the offices that had been prepared for him.

Next morning, promptly at nine o'clock lunar time, which as a matter of convenience had been made to coincide with Greenwich Mean Time, Colonel Burton opened the door of his office and walked briskly in. The room, although it was in reality a sort of cave scooped out of the rock, did manage to resemble a business office. It was full of Space Service Lieutenants of every shape and size, who began to take their booted feet off tables, and the small of their backs off chairs as soon as they saw him.

"Don't get up," he told them, without pausing on his way to his chair.

He seated himself behind his desk and looked around at the young men. Three of them wore the new black uniform of the Space Service. Two wore the U.S. Army Air Force uniform, one was apparently a British Air Force Officer, and the seventh wore a uniform which the Colonel did not recognise.

He proceeded to identify the men. The three in black were Barry, Levitski and Rogers. Stromberg and Thane were the U.S. Air Force men, Howard was the Britisher, and Pereira was Portuguese.

"I don't recognise your uniform," he said to this man.

"Portuguese Space Service," the man replied with a grin.

"Your country has space craft?"

"No, sir, but I got my training in the U.S."

"I see." He looked around unsmilingly. They were all about twenty to twenty-three years old, supremely fit, confident, intelligent.

"Now that I know you, let me introduce myself . . . I am Colonel Burton. Three weeks ago I received instructions to undertake a certain task, which I shall explain to you in a moment. I was told I should have the services of half-a-dozen first-class experienced space-craft pilots—I see, however, there are actually seven of you. I assume you've all been warned that the job may be extremely dangerous, and that you are all volunteers. Is that so?"

The men made various sounds and signs of agreement.

"I assume also that those men not wearing United Nations uniform have volunteered and have been seconded from their own service. Correct?" He paused again and looked round.

"The job you and I have to do has been named Operation Big Stick. The reason for it will probably be known to you . . . The U.N. and several national governments likewise, are convinced that there are alien intelligences within our solar system."

"Say!" one of his listeners exclaimed. "You don't mean these rumours are true?"

Colonel Burton looked at the speaker without change of expression.

"Lieutenant—Thane, is it?—when you ask a question please address me in the correct form—Yes. These rumours are no longer rumours. They've been amply confirmed. You may take it as a fact that there are other intelligences in our corner of space. They've probably come from another solar system, and the experts think their visits here have become much more frequent recently. Now," he continued earnestly, "although they've fired on one or two of our ships, United Nations doesn't assume they're hostile. Certainly they've been exploring our planets for years without attempting to contact us, but that may be due to physical difficulties. For example, the creatures may not use speech as a means of communication, or they may be in fear of us. Official opinion is neutral. They may be hostile, they may not. However, U.N. has decided that we must develop methods of defence, just in case. We must speak quietly but carry a big stick."

"Sir?"

Colonel Burton looked at the speaker. One of his tasks this morning was to attach the correct names to faces and voices. "Lieutenant Howard, I think?—well?"

"Won't this show of weapons merely convince these—visitors—we're aggressive? Isn't there some risk they may decide to destroy us before we destroy them?"

"There are at least two answers to that, Lieutenant," Burton said. "The aliens already have weapons of some kind. They fired and damaged one of our Mars ships about a year ago. Secondly, this is one occasion when our actions are demonstrably defensive. They are already on our doorstep, while we don't even know where they come from and couldn't go there if we did." He looked around the group of faces, then continued. "So U.N. has decided to build a fleet of fighting ships." He pulled open a drawer in his desk and took out a rolled blue-print. "If any one of you has a picture in his mind of what a fighting space-ship should look like, I reckon this will give you a surprise."

He unrolled the blue-print and spread it out flat.

"Prototypes of this ship are being built right here at this very moment."

The drawing showed a hemispherical top and a cylindrical body ; below that, three splayed legs with complex joints, and between the legs, a tapering portion which was presumably the power jet.

The seven men crowded round. "What's the scale, Colonel?" one asked.

"You'll be surprised," he explained. "The overall length's twenty-five feet, and the diameter's about eight."

"Can't we build anything more formidable than that midget?"

"Here is the reasoning behind this design," Colonel Burton continued. "It's considered by those who should know best that there's no future in the sort of huge space cruiser bristling with weapons such as we see on the tele-plays. Monsters of that size can't manoeuvre. They'd be so crammed with gadgets they'd need tremendous engines, lots of crew and enormous quantities of fuel. And they'd be as vulnerable as balloons. Now these are simple and manoeuvrable. They've the minimum of gadgets. They've got thick skins. They're safe. They're designed so they can be based right here on the Moon. A whole fleet of them can take off from here and lie out in space for three or four days—maybe a week, as a screen round Earth."

"You mean a man can really live in that thing?" Thane asked incredulously.

"It's no luxury hotel, but it's O.K. for one man. It'll handle his air for twenty days. He'll have a directional radio and a homing signal so he can be picked up in space if he's in trouble. It's simple and safe. Presently it'll have a gun mounted, but the calibre and other details can't be settled yet."

"Does this thing have a motor, Colonel, or just elastic?"

Colonel Burton ignored the sarcasm. "It has an atomic motor in the tail section capable of giving maximum thrust for a short period during take-off and landing. There's an intermediate thrust available for ten minutes at a time during combat manoeuvres, and a normal cruising thrust which can be used for practically unlimited periods. It's a very well-designed versatile engine. Of course, most of the time on patrol will be spent in free fall."

The group of young men looked at the diagram again for some time in silence.

"The whole tail-section, containing motor and jet, is free to turn in every direction in a ball-and-socket joint. It's expected that this thing will turn in its tracks like a whiplash."

"You mean it can wiggle its tail?"

"Exactly," Colonel Burton agreed, without a smile.

"Sir," Howard said. "I see one serious defect in this design. It isn't designed so it can land or take-off."

Colonel Burton began to roll up the blue-print.

"Tell me why you think so, Lieutenant," he invited.

"It's got no gyros, no ship-to-ground control, no lateral stabilising jets. None of the hundred and one devices a ship needs to take it up and set it down again."

"This is no cargo-carrying tub," the Colonel replied. "It's a fighter. It's got to have small mass to be manoeuvrable. It's got to be robust enough to stand rough usage. It's a one-man job so there's no use putting in equipment that needs three men to operate it. There'll be thousands of these swarming round in space presently and we don't have unlimited amounts of fuel, so it's got to have a small efficient motor. Start putting in gyroscopes, motors to drive them, radio, remote-controls and so forth, and you'll double the length of the ship, which means cubing the weight. You'll have a cruiser that needs a crew of five to work—and for a crew of five you need still more space, and a bigger air plant—which makes the ship that much bigger again. No, the correct answer is the smallest possible—the one-man job."

"You haven't told us yet how the thing's to be landed, Colonel," Howard insisted.

"We reckon young men like you can learn to do that by hand," Colonel Burton told them, deliberately.

They looked at him, and then at the drawings, and then at each other.

"That could be mighty dangerous, Colonel," Levitski drawled.

"I agree. That's why we asked for volunteers."

"Just how dangerous is it, sir?" Levitski persisted.

"Nobody knows till you boys try it. On the one hand, you'll do it here under Moon gravity, where things fall slowly and gently; on the other hand, it won't take a lot to crack these ships open and make their motors blow."

"So what's our task, Colonel?"

"As written, it's to discover and develop techniques of take-off, landing and manoeuvre in space for these ships, and to teach them to the trainees who'll be coming along presently." He looked around the row of young earnest faces. "You've come into this thing right at the start," he told them. "The book of rules hasn't been written yet, so any comments, any sort of suggestion will be welcome."

"The way I see it," Howard said, "it's plumb impossible. Even the way we do it with the big ships—gyros, remote-control, and all the trimmings—it's pretty savage amusement and every so often a ship topples or falls away and goes screaming off to plaster itself all over the local mountain. To do it by hand, while this thing's bucking and wriggling upwards on its jet about a hundred feet off the ground—that'd be quite some balancing act."

"It's a bit like riding a bicycle," someone remarked. "Suppose you'd never seen a bicycle, just a diagram with instructions how to control it, I'm sure you'd decide the whole business was impossible—yet it's a knack anyone can acquire in ten minutes."

Colonel Burton identified this speaker as Lieutenant Barry.

"If you fall off a bicycle before you get the knack, you only get bruises," Thane pointed out.

"Do we get any dry-land training?" Howard asked.

"Yes," Burton told him. "Development Section has fixed up a practice rig in the hangar, with a manoeuvrable jet in the tail, supplied with air under pressure. You can fly this about four feet off the deck and get practice in control. Besides that, we've got a mathematical wizard to give lectures on stuff like velocity vectors, lines of thrust, and turning moments."

"You taking part in the tests, Colonel?" Howard asked politely.

"No," Colonel Burton replied steadily. He considered rapidly whether he would add a word of excuse—that he was over age, or that he had never qualified as space-pilot—then firmly resisted the temptation to such weakness.

The first ship was ready for test three weeks later. In the interval the seven men practiced in the compressed-air-powered rig, and attended lectures—probably the most highly theoretical and speculative ever given—on space-craft manoeuvres. During this time Burton attempted to estimate the character and ability of his test-team.

He ruled out Pereira and Rogers as his choice of pilot for the first attempt. Pereira was a likable young fellow, but over-confident to the verge of rashness. Rogers he assessed as aggressive and ambitious, liable to take great risks to win credit and promotion. Burton finally selected Lieutenant Barry. He was a cheerful extrovert type. He discussed the forthcoming tests quite casually and did not appear to brood or to worry overmuch about the risks.

The ship was towed along the tunnel from the Development hangar and set up on its tripod legs out on the level floor of the crater about five miles from Base One. The six remaining test pilots assembled in the control centre, which was a bunker cut in the cliff face, with a

window of reinforced glass overlooking the test site. The place was crowded with people. There were the site officer, a radio N.C.O., a number of civilians of the design staff, three officers from Development Section, and of course Colonel Burton. While a good deal of brisk talk passed among the others, the test pilots moved up into one corner of the room.

"I reckon he'll make it," Stromberg said. "His idea is to take it up steady, not too fast."

"Sometimes I think there's nothing to this thing," Thane commented. "I think that about half the time. The other half I think it's impossible."

"Like somebody said, it's the same as riding a bicycle—a sort of knack that you pick up as easy as . . ."

". . . I know—you can pick it up as easy as falling off a bicycle," Thane interrupted. "I wonder which of us Lizard-face will pick for next, if Barry piles himself up. Difficult job that."

"Lizard-face doesn't worry. He gives each of us points for skill, speed of reaction, calmness, determination, and so forth, then works the answer out on a computer."

"There's more to Lizard-face than that," Howard told them. "When I took that trip back to Luna City last week, I saw our good Colonel dining out in the Cliff Top Restaurant with his wife. He acted quite human then."

"Someone else's wife, you mean," Rogers suggested scornfully. "The wife of some poor space-pilot like you or me who's been sent on a risky mission by an old goat like Lizard-face."

"This was his wife," Howard insisted. "He introduced me."

"Was she . . .?" Thane made gestures with his hands.

"Nothing like that," Howard shook his head. "She isn't what you'd call a dame, she's a woman—I'd call her a very charming woman, only you tough Americans don't use those old-fashioned limey expressions."

"You make her sound like she's about seventy, with snow-white hair."

"She's about twenty-five, her hair's brown, and to use another old-fashioned un-American expression, they're in love with each other."

"Impossible!" Thane exclaimed. "Lizard-face uses teleprinter-ink instead of blood."

There was a buzz of activity among the officers at the other end of the room. A vehicle taking Barry out to the ship could be seen crawling out across the plain. Five minutes later the speaker on the wall came to life with a loud crack.

"Lieutenant Barry here," it announced. "I'm in the ship now ; ship sealed ; everything checked ; ready to take off. Any instructions, Colonel ?"

"Whenever you like, Lieutenant," Colonel Burton replied into his microphone. "All you're required to do is to take it up and set it down again."

"The recording cameras are starting now." He gestured to one of the officers, who spoke a few words into a microphone.

"Very good, sir," Barry's voice replied, matter-of-factly.

The occupants of the hut crowded to the observation window.

"Firing jet," Barry's voice announced.

Out on the plain a pale thin flame blossomed beneath the tail of the ship.

"Jet running O.K. The ship's vibrating slightly."

The spectators watched the little ship intently.

"I'll take it up now," Barry's voice announced. "Rising slowly."

The first instant after he spoke the ship could not be seen to move. Then it lifted slowly. The flame from its jet reached downwards till it rebounded from the platform. The ship rose upwards with increasing speed until it was seen against the black star-studded sky. Sunlight glinted on its flank, and the flame from the jet hung below it like a thin tail. The operation seemed to be entirely straightforward and perfectly safe.

"It's beginning to wobble slightly," Barry's voice was quite calm.

What happened then was too quick for the watchers to note. The ship wobbled. The wobble was corrected at once, but the correction threw the ship into a spin in the opposite direction. It continued to spin round and round like a catherine wheel. For a moment it travelled across the sky almost horizontally, spinning faster and faster. Then with the jet still flaring it dived with increasing speed into the ground. A flash of blue flame showed that the motor had blown up on impact.

During the few minutes in which the disaster occurred there was complete silence. No word came over the radio from Barry. No one in the bunker had spoken, and no sound of the final explosion reached them across the vacuum of the moon. Before anyone spoke a rescue vehicle on caterpillar tracks appeared, churning its way across the dust in the direction of the wreck.

The second ship was ready for test five days later.

Colonel Burton decided to allot the test to Stromberg. Stromberg was apparently undismayed by Barry's death. He claimed to know where Barry had made his mistake, and seemed eager to try out his own theory. Stromberg was an intelligent fellow, but Burton detected

a hint of over-excitement in his voice. He thought Stromberg's nerve was good at the moment, but not tough enough to hold much longer.

Stromberg's idea was that safety lay overhead. The ship should be taken up fast, with no attempt to correct small deviations from vertical. Accordingly he blasted off hard. His ship shot upwards. For a while its track was vertical, but gradually, due to some eccentricity in the thrust of the motor, it was seen to curve over to the left. As it reached the upper limit of the watchers' vision, the curve had taken it round till its path was horizontal. Just before it disappeared from view, violent changes of course indicated that the pilot was trying to correct. The ground radar tracked its course till it vanished round the curve of the moon's surface. Stromberg's radio was silent the whole time. A party of explorers saw his ship come tumbling down to crack itself to pieces on a spur of rock five miles from their camp.

The next ship would not be ready for test for a fortnight. Howard and Rogers got themselves a couple of days' leave, and went off to sample the pleasures of Luna City. When they had booked their accommodation at U.N.S. Headquarters they made their way to the famous Cliff-Top Restaurant. Earth was at full phase and the seats near the restaurant's great reinforced glass window were all occupied.

The two young men walked around among the diners looking for an unoccupied table.

"There's a dame sitting alone over there," Rogers exclaimed joyfully. "And two empty chairs beside her. What more could we ask for, except perhaps another dame?"

"In the words of the old joke," Howard replied, "that ain't no dame—that's Colonel Burton's wife. Still . . ."

Rogers hesitated, but only for a moment. "There's no law against eating in company with the Colonel's wife—especially one that's young and beautiful. Introduce me, pal."

Mrs. Burton recognised Howard, and appeared unaffectedly pleased to see him. "My husband's on duty at Base," she told them. "No doubt you know that . . . But I came here just so I can sit by the window and watch our old Earth go rolling round."

"Your first visit to the Moon, Mrs. Burton?" Rogers asked as they seated themselves. Howard chuckled gently to himself. He felt pretty sure Rogers' customary technique with women was the Hi-ya, Babe approach, but he was amused to see how swiftly he realised this method would not impress Mrs. Burton.

After dinner they took turns to teach Mrs. Burton to dance. To dance under Moon gravity was an art which had to be acquired, but after an hour or so of practice it became a novel and delightful experience, a sort of effortless floating to music.



Mrs. Burton was a good dancer. She quickly adjusted herself to the low gravity and obviously enjoyed herself.

"Thank you both for a marvellous evening," she told them. "I usually feel dull when my husband is away, but not tonight."

"Gee!" Rogers exclaimed later, as they had a bed-time drink in the bar at UNS. "What a dame! Only, as you said yourself, she isn't a dame; she's a woman, a female woman—a really beautiful woman. I didn't think there were any of that sort left any more."

"We have a few left back home in England," Howard told him slyly. "In remote corners."

"This one's a genuine home-grown American," Rogers was clearly in the grip of a new and powerful experience. "And she belongs to that dried-up old leather-skinned calculating machine Burton."

Film recordings had been made of the two disastrous test-flights from five different vantage points, around the take-off platform.

When Howard and Rogers returned to Base One, they were ordered together with the other three test-pilots to sit through no less than three showings of these films every day.

"He's a sadist," Rogers suggested. "He gets fun out of tormenting us like this."

But after the third day—and the ninth showing of the films—Colonel Burton called them to a meeting.

"I want each man to give his views on our problem, and to make any recommendations," he told them abruptly.

"Order some more test-pilots," Rogers answered promptly. "You're going to run short of that item soon."

The Colonel looked at him unemotionally. "I'll do so before the shortage becomes acute," he replied calmly. "What I want from you, however, are suggestions and comments of a technical nature. What mistakes were made in the last two tests?"

"Could be the ships are inherently unmanageable," Livitski suggested.

"If that is your considered opinion, Lieutenant Levitski, you may wish to withdraw from the project?"

"No, sir," Livitski protested mildly. "I was just taking that thought out for a little airing. It must be knocking around at the back of all our minds."

"I don't believe they're unmanageable," Howard said. "Out in space I reckon they'll be fine. Take-off requires learning a knack, that's all."

"Back at the beginning of this century folks went through the same routine learning to fly aircraft," Rogers added. "These pioneer fliers just climbed into their crates and tried out their own unbaked ideas. If an idea worked, they came back down and taught it to their pals."

"And if it didn't, they still came back down, but didn't tell their pals," Pereira finished for him.

"These films you forced us to sit through, Colonel," Livitski said, "after the third or fourth run I got so bored I began to look at them. As far as I can make out, loss of control follows immediately after correcting. When the thrust stops acting on the line of the ship's centre of gravity, a turning couple is set up which starts to spin the ship. This spin gets faster as long as the jet is kept deflected. But there's another point; in vacuum, this spin will continue even after the jet's brought back into line. According to one of old Newton's laws, if a thing is set to revolve, it needs the application of another

force to stop it. So I think every correction should consist of two parts—a short flick of the jet in one direction to start a swing, and then an immediate flick in the opposite direction to kill the swing before it goes too far. After I got this idea, I watched the films more carefully. Neither of these poor saps killed the swing—or at least they didn't do it till they felt something was going wrong, and that was much too late. I reckon every correction should be in two parts, one following the other automatically, like this : Di-dah ! Di-dah !”

The others discussed Livitski's idea and agreed he had got something.

“You'll have your chance to try that theory out next week,” Colonel Burton promised him.

Livitski was a calm philosophical character. When his time came, he lifted the ship steady and straight. It rose into the sky as if sliding up a vertical rail. The watchers however could see an occasional brief sideways flicker of the jet. Each flick was followed instantaneously by a flick in the opposite direction.

“Di-dah ! Di-dah ! Di-dah !” Livitski's voice came to them from the loud-speaker. “Nothing to it, boys.”

“Very good, Livitski,” Colonel Burton's voice was as cold as ever. “That's enough for today—bring her straight down again.”

“Very good sir. Coming down now.”

The ship was a tiny speck in the black sky. They saw it stop and begin to slide back down again. It came slipping down in short jerks, the flame beneath its tail shortening and lengthening. It seemed to wobble a great deal. They all realised it was on the point of tumbling out of control.

“Well, I sure showed you how to take 'em up, boys,” Livitski's voice said, still calmly, “but I reckon somebody else must learn how to bring 'em down again. My love to Colonel Burton. 'Bye !” The click in the loud-speaker told them he had switched off.

The ship continued to descend, jerkily, more and more out of control. At the last moment it seemed as if Livitski tried to stop the descent, but his action only caused the ship to fall over. It struck the ground on its side and bounced. The jet did not cut out, so the ship ploughed its way furiously across the crater through the dust to ram its nose finally against a spur of rock.

Pereira, who had been clutching a pair of binoculars, hurled them savagely against the wall.

Two accidents in quick succession to development aircraft is just ordinary bad luck, but when three ships crash one after another, that

is something else. The construction gangs and fitters began to talk first, and when they got together with the Admin. grades at Base One their information and opinions linked with what the latter knew about Colonel Burton and his group of space pilots made a really choice item of gossip.

They said the new ships were no good and never would be ; anyone could see that, but Colonel Burton's career depended on getting them out into space, and he was killing off test pilots at the rate of one a week in an attempt to do so. Somebody in the clerical section knew he had already sent a request back down to Earth for six replacement pilots.

The story of the test ships circulated around Base One for a while, building up as it went, then eventually leaked out into Luna City, which was after all rather a small community, fifty per cent of whose members were directly involved in space work.

Within a week of Livitski's death some well-wisher thought it proper to tell Mrs. Burton that her husband was functioning as executioner to a stream of test pilots who were being killed trying to take off in some impossible ship. Mrs. Burton was level-headed as well as beautiful. She asked her husband what were the facts of the matter.

Unfortunately, years of military training had established a block in Colonel Burton's mind so that he found it distasteful to discuss service matters with civilians. The block functioned even though in this case the civilian was his own wife.

"I'm in charge of a development project which has unfortunately cost the lives of three test-pilots," he told her briefly. "The other half of the rumour—that's to say that the ships are unsound in design, is mere gossip. The designers think the ships are controllable, and no-one else knows better."

"Are you doing some of the tests yourself?" Partly she was anxious on his account, but partly she hoped to discover that he was sharing the dangers with the test-pilots.

"No," he said abruptly. Almost any other man would have explained the circumstances, but he was quite unable to do this.

Beneath his wood-and-leather exterior Colonel Burton was deeply distressed at being forced into playing this unpleasant role. The thought of the three pilots already killed—killed perhaps because he had made some wrong decision—was a constant torment in his mind. And how many more young men must he sacrifice before the trick of handling the ships was mastered? At what point should he declare the ships to be unmanageable and stop the tests? And if he did this, might not some other officer, less efficient than himself, take over and proceed to kill pilots in even greater numbers?

"I must carry out my orders like every other service man," he told her abruptly.

"Not necessarily," she objected, with a sharpness he had never heard before in her voice. "Not if you think the orders are murder. If those ships are really unmanageable, as many people say, you should refuse. You should resign, if necessary."

"No-one whose opinion matters believes the ships are unmanageable," he said. "If I resigned someone else would be sent to take over. Nothing would be changed."

Colonel Burton chose Thane to make the next test, five days later. Thane took the ship up steadily and smoothly, but during the descent he appeared to lose his nerve completely. For a time he kept the ship joggling crazily up and down on the end of its flaming jet, then perhaps thinking he was near the ground level he cut the jet. The ship fell quite gently in the low gravity. It struck ground with one leg, tottered for a moment, then fell over on its side. The jet which had been nearly extinguished, flared up again suddenly as it lay.

"Cut your jet, Thane!" Colonel Burton called into his microphone. "Cut your jet!"

But Thane must have been unconscious, for the jet continued to flare. After a couple of minutes, while the watchers looked on helplessly, the over-heated motor blew up with a bright flash. Large pieces of the ship were flung upwards from the ground, then sailed slowly downwards again.

Pereira did the next test. He lost control immediately after take-off. His ship went spinning up into the sky like a catherine wheel. It continued to rise and spin until it passed out of sight. It was never seen again. No trace of its wreckage was ever discovered on Luna. It was supposed that the ship passed right out of the Moon's gravitational field, spinning faster and faster with Pereira unconscious. Even if Pereira ever recovered consciousness later there was nothing he could do to help himself once the fuel was exhausted.

"There's a stay of execution for a week while another of these flying death-traps is completed," Howard told Rogers. "I know us test-pilots should keep off liquor, but I think our present case is exceptional. I propose to make a careful estimate of the amount of liquor we might consume if we were to live another fifty years, and try to absorb it in a week."

"What about dames?" Rogers asked.

They discussed how they could cram a lifetime of living into the space of a week.

By this time the death of the five test pilots had become the priority topic of conversation. Colonel Burton's acquaintances at Base carefully avoided the subject in conversation with him, or were as brief and formal as possible when they had to refer to it. Service personnel looked at him sideways, oddly, curiously, as if he were a sort of monster. Even in Luna City people turned to look at him as he passed. He was the monster who was killing off space pilots in hopes of achieving the impossible and thus win promotion for himself.

A senior officer decided to have a word with him on the subject.

"Look here, Burton," he began shortly, "take my advice and stop these tests. You're killing off good men at a great rate, wasting Development Section's time and money and doing your career no good at all. Report back to your Committee that the ship is unmanageable. In the long run you'll do your reputation a whole lot of good if at this stage you refuse to carry on. Refuse in good resounding phrases. You'll get a rap over the knuckles, no doubt, but in the long run . . ." He left his sentence unfinished.

"Thank you, sir," Burton said. "I'd be thankful indeed to be quit of this job, but I can't honestly say the ships are unmanageable. Each pilot has made some progress. We know how to take the ships up already. In the attempt before this last one, the pilot almost made it back down again. That last failure was due solely to loss of nerve."

"Therefore, to put it with brutal frankness, you think the ship can be mastered for the price of a few more lives?"

"Exactly," Colonel Burton nodded.

"To get these ships out in space at the cost of a dozen lives is cheap enough, I suppose," the other reflected. "Humanity has often paid a much higher price for progress of this sort. But I still think your part in the show stinks. Already folks are calling you the executioner, and that label's likely to stick. I'd refuse to proceed, if I were you."

"I can see no grounds for refusing," Burton objected. "We are making progress."

"Well, it's your career," the other got up and walked away.

Colonel Burton went back into Luna City that week-end, because it was his custom to do so, and took his wife to dine at the Cliff-Top Restaurant, because that was his custom also. There was a considerable buzz of talk as they walked among the tables, and heads turned in their direction.

They had been seated only five minutes when Rogers and Howard entered. They had already accomplished a considerable part of their ambitious drinking programme, and were therefore in no state of mind to be overawed by Colonel Burton. They made straight for his table.

"Good evening, sir," Howard said. "We'd like to join you, if you please."

Howard was not exactly drunk, but he was not entirely sober either. It is always surprising to see a usually reserved, self-contained person under the influence of alcohol. Colonel Burton looked at him speculatively.

"Correct, sir," Howard agreed, although nothing was said. "I'm slightly drunk."

Rogers sat down beside Mrs. Burton. "Remember me?" he asked.

"Of course," she smiled. "You taught me to dance."

"That's right," he agreed solemnly. "I'd like to continue the lesson this evening. I'd like to dance every dance with you. Promise?"

"Not every one," she told him, smiling. "I mustn't neglect my husband altogether."

"Don't worry," Rogers assured her. "Old Lizard-face won't object. He simply can't. You see, he's going to sentence me to death tomorrow, so tonight I have privileges. The dying man's last request—to dance with the executioner's wife. How d'you like that, eh? Cummon—let's dance." It occurred to him suddenly that he owed something to Colonel Burton. "O.K., Lizard-face?" he asked. "You don't mind, eh?"

Colonel Burton nodded his assent. His wife, looking bewildered and distressed, was swept off by Rogers.

"Rogers is tremendously attracted to your wife, sir," Howard said, "but he means no harm."

Rogers danced with Mrs. Burton all evening. Colonel Burton looked on impassively. Howard continued to drink steadily, so that in the end he required to be assisted by Rogers, who had sobered up in the course of the evening.

"Good-bye, Mrs. Burton," Rogers told her finally, "or should I say Hail and Farewell? Good-night, Colonel Burton, sir." He saluted elaborately and turned to Howard. "Come along, drunkard. When sober types like you turn to drink, you certainly make beasts of yourselves."

"Jim," Mrs. Burton said later. He had been called many things in his life—Burton, Danyou Burton, Captain Burton, Colonel, recently Lizard-face, but for twenty years few people had called him by his first name. Every time Joan did so his heart melted within him. "These two young men believe they're going to be killed within the next day or so. You're going to order them to take up a ship that isn't fit for service. They hate you and despise you. People around the city are calling you the executioner. They say you're only interested

in getting promotion. Won't you please come out from behind that professional mask and give me an explanation?"

"I think perhaps I ought to," he agreed. "Here it is. I'm a technical administrative officer. My job is to organise tests of space equipment; to see that the stuff is brought forward from Development in good order; to see that recording cameras and radar tracking are operated satisfactorily during tests; to decide when tests shall take place; to make reports on results. Specialist staff is allocated to me to do this work and I employ them as efficiently as I know how. So you see I'm merely an organiser. If I resigned, someone else would be sent in my place. Pilots would still be killed, and if the man who replaces me here were less efficient than me, a greater number of pilots would be killed. That's all there is to my job."

"But you could stop those tests! You could report that the ships are unmanageable. Everybody says they are."

"Everyone except the men who know," he corrected her.

"Don't you feel you should resign? Rather than be mixed up in a dirty business like this?"

"Believe me, I've considered doing so. But the Service has been my father and mother for twenty years. I've worn its uniform and drawn the pay and accepted promotion. To refuse now to do a dirty but necessary job of work doesn't seem particularly admirable."

"So Rogers and Howard must be sacrificed?"

"They—or others like them—will be killed even if I resign," he told her miserably.

"In all the best stories no officer ever asks a man to undertake what he will not do himself," she said.

"That observation doesn't apply in this case. I'm an executive officer. Until fifteen years ago I flew jet aircraft, but I've never trained as a space pilot. I can't do Rogers' job. I wouldn't be allowed."

"Well . . ." she concluded, "your logic is sound all right. But I'm a woman and I don't trust logic. I don't want to see Rogers and Howard killed."

Next day, returning to Base One in the monorail, Burton reflected miserably that he had failed to live up to his wife's expectations. She was a woman. Two likeable young men were to be killed and she wanted it stopped.

In his office he found a signal from Earth H.Q. He read it eagerly. Of course, if H.Q. ordered the tests stopped, no one would be better pleased than himself. The first sentence of the message almost led him to think that this had been decided. But no; the message began by expressing the Development Committee's deep concern about the

loss of five pilots. Colonel Burton was to understand that lives must not be sacrificed needlessly. The tests must be stopped the moment it was suspected the ships might be inherently unmanageable. On the other hand, he must remember that the development of an effective space-fighter was a vital necessity. Bearing these points in mind Colonel Burton was urged to use his own discretion whether to stop the tests or to continue them.

Burton read this signal several times, seeking its meaning. Finally he decided that it had no meaning. It contained no new order. It clarified nothing. The only thing about it that was clear was its purpose, which was to prepare the ground for ensuring that he should be held to blame whether the tests were stopped before success was achieved, or were continued, accompanied by further loss of life.

He leaned back in his chair and considered the situation he had got himself into as a result of earnest and conscientious attention to duty. His test pilots hated him. His brother officers thought him a fool or a scoundrel or both; a large number of civilians around and about Luna City thought him no better than a criminal and a murderer. Then—the thing that mattered most—his wife had begun to doubt his courage and honesty. Finally, this message from H.Q., which meant he would be held to blame whether he continued or stopped.

He continued to look at a corner of the ceiling for some time longer, then he set the legs of his chair back on the floor and reached for his telephone. He learned that the next ship for test was being towed out by the tractor at that moment and would be ready for take-off in an hour.

He made his way through the warren of underground passages towards the Control Room. A number of people—signals and radar personnel—were already busy checking equipment, but the two test pilots had not put in an appearance.

"Send a message to Lieutenants Rogers and Howard," he said in his most official tone. "Tell them I've decided Rogers shall take up this ship, but that there is a delay of two hours. I want to make a personal examination of the ship."

"Very good, sir," they said, exchanging looks with one another. Everyone thought old Lizard-face was going to make some useless gesture before sending another man off to his death.

He clambered into a pilot's space-suit—a garment he was more familiar with than his helpers realised, for he had worn one regularly fifteen years ago in high-altitude jets—and was trundled out in the jeep over the powdery dust of the crater floor to the take-off point. The jeep driver prepared to wait, but the Colonel ordered him back to cover.

"I'll be here some time," he said by way of explanation.

He climbed the rungs on one of the ship's tripod legs and passed through the tiny air-lock into the ship. He seated himself in the pilot's acceleration chair, strapped himself in, and went methodically through the take-off drill. Check air-lock ; verify fuel ; start pumps ; finally the radio.

"Colonel Burton testing radio," he intoned.

"Receiving you," a voice replied.

The ship had only one control, a long slender lever which emerged horizontally from the wall. Movement of this lever deflected the jet. A twist-grip on its end increased or decreased the thrust of the jet. That was all.

Colonel Burton gripped the lever gently. He wound the back of the chair down so that he was lying almost horizontal and looked up through the transparent nose of the ship.

He selected a bright star overhead to use as aiming point. For a moment he lay with the control stick in his hand, thinking. He thought how fortunate he had been to live in the age which had seen mankind conquer space, and to have played his own part in this tremendous achievement. He thought how fortunate he had been to meet and to marry his wife Joan. He felt a little sorry for her just for an instant. For a moment he recalled the five young men who had been killed under his orders. Then he pressed firmly down on the firing buttons . . .

Somewhere beneath him the atomic jet woke to life. It gave an initial cough and spluttered, then settled down to a gentle hum. The Colonel rested his head on the cushion and slowly turned the twist throttle. The hum beneath him grew in intensity. He kept his eye on the star which he had selected as his target. It began to swing gently back and forwards. The amount of the swing was quite small and regular however. He turned the throttle very slightly, and immediately afterwards took a swift sideways glance out of the port at his elbow. The mountains round the crater rim were dropping swiftly away below. A tinny voice was shouting in his ear, but he paid no attention to it. He turned his eye back to the star. It was still right overhead, swaying gently. Presently he saw that this swaying was tending over to his left. He risked a correction, the very briefest smallest deflection of the jet. Di-dah ! and back again Di-dah ! He felt the ship swing beneath him. The star shifted sharply over to the left and oscillated erratically for an instant, then settled once more in a slightly different position. The mountains were out of sight now. He turned his attention to the radio.

"Give me an altitude, please," he demanded, crisply.

There was an instant of silence.

"Fifty-seven miles. Rising at two hundred feet per second," a voice answered.

He continued to watch the star above him. He made his altitude without any difficulty. He must be as good as these younger men, for he had at least taken the ship up.

But now there was the descent . . .

He turned the hand-throttle down, very, very gently. The star jiggled about erratically. Suddenly it swooped across to his left. He corrected. It shot over to the right. He corrected again—the swiftest motion of the stick he could contrive—the star settled down once more. He closed the throttle further.

"Rate of descent—fifty feet per second."

Three times the star went sliding and skittering across the canopy overhead. Each time he thought he had lost it, but every time he brought it under control again.

For a long time he seemed to descend steadily, as if sliding down a cord. The mountains moved up into view again. Suddenly in his ear a voice loud, firm, commanding, shouted :

"Burton, cut your jet right off ! At once ! At once !"

Without thinking, almost as if hypnotised, he closed the throttle right down. Immediately the ship began to fall. Almost instantly he felt a jar as one tripod leg struck the ground. The ship rebounded under the influence of the recoil spring, and began to topple. The stars which had lain above him, swooped suddenly across the sky. The ship fell right over, bounced slightly and lay still.

Colonel Burton lay quite still also, hanging sideways in the straps of his chair.

A voice said :

"Colonel Burton ? You O.K. Colonel Burton ?"

"Perfectly all right, thank you. Send the jeep out, if you please."

By the time he had extricated himself the jeep was waiting for him. Once inside it he unfastened the helmet of his space-suit, and switched off his air apparatus.

"You O.K. Colonel ?" the driver asked. He was looking at his passenger as if he had just returned from the dead.

"Certainly," the Colonel replied, crisply.

He walked back into the control room, still wearing his suit.

"These ships should present no great difficulty in future," he remarked. "Now that the job has been done once, pilots should have considerably more confidence in them. By the way, who ordered me to cut the jet ?"

"I did, sir," Howard told him.

"Why?"

"The ship was off vertical. It was clear it would topple when it touched ground. I deliberately gave the order in such a way that you would obey automatically."

Colonel Burton considered this explanation unsmilingly.

"Very sound, Howard," he agreed finally. "The motor would certainly have exploded otherwise. I'll include an account of your action in my report. And I think it should be made standard practice for control room to order the ship's pilot to cut jet an instant before he touches. Will you please have the ship checked over at once? Lieutenant Rogers will take it up this afternoon."

Rogers took it up that afternoon as ordered and set it down again without even toppling. The following day Howard made an ascent. He cut the jet at thirty feet off the ground and damaged the ship considerably, but he himself was unhurt. A week later five new pilots reported to Colonel Burton. Rogers was killed on his twelfth ascent. Howard survived, and eventually became Colonel Burton's second-in-command. Six months later ships were taking off every day in squadron formation.

Colonel Burton received the congratulations of the U.N. Armament Development Committee, and eventually was awarded a medal. A great many people congratulated him. Some apologised for previous remarks. Next time he visited the Cliff-Top Restaurant his entry was applauded by the other diners. His wife Joan thought him absolutely wonderful.

In fact, everyone was pleased and satisfied, except Colonel Burton himself, who as has been explained, was a particularly honest sensitive man. He never managed to forget that his real purpose in taking the ship up was to solve his personal problems by committing hari-kari. He knew himself to be a fraud, and hated himself accordingly.

The ships were out in space, however. Humanity had made another step forward.

Alan Barclay

Mr. Ballard is a new author to our pages from whom we hope to see a lot more stories in the near future. His first story herewith (although he also has one in the current Science Fantasy) is a delightful type of Time-travel theme in a setting all too familiar to everyone — commercial TV. But read about . . .

ESCAPEMENT

By J. G. Ballard

Illustrated by HUTCHINGS

Neither of us was watching the play too closely when I first noticed the slip. I was stretched back in front of the fire with the cross-word, braising gently and toying with 17 down ("told by antique clocks?: 5. 5.") while Helen was hemming an old petticoat, looking up only when the third lead, a heavy-chinned youth with a 42-inch neck and a base-surge voice, heaved manfully down-screen. The play was "My Sons, My Sons," one of those Thursday night melodramas Channel 2 put out through the winter months, and had been running for about an hour; we'd reached that ebb somewhere round Act 3 Scene 3 just after the old farmer learns that his sons no longer respect him. The whole play must have been recorded on film, and it sounded extremely funny to switch from the old man's broken mutterings back to the showdown sequence fifteen minutes earlier when the eldest son starts drumming his chest and dragging in the high symbols. Somewhere an engineer was out of a job.

"They've got their reels crossed," I told Helen. "This is where we came in."

"Is it?" she said, looking up. "I wasn't watching. Tap the set."

"Just wait and see. In a moment everyone in the studio will start apologising."

Helen peered at the screen. "I don't think we've seen this," she said. "I'm sure we haven't. Quiet."

I shrugged and went back to 17 down, thinking vaguely about sand dials and water clocks. The scene dragged on; the old man stood his ground, ranted over his turnips and thundered desperately for Ma. The studio must have decided to run it straight through again and pretend no-one had noticed. Even so they'd be fifteen minutes behind their schedule.

Ten minutes later it happened again.

I sat up. "That's funny," I said slowly. "Haven't they spotted it yet? They can't all be asleep."

"What's the matter?" Helen asked, looking up from her needle basket. "Is something wrong with the set?"

"I thought you were watching. I told you we'd seen this before. Now they're playing it back for the third time."

"They're not," Helen insisted. "I'm sure they aren't. You must have read the book."

"Heaven forbid." I watched the set closely. Any minute now an announcer spitting on a sandwich would splutter red-faced to the screen. I'm not one of those people who reach for their phones every time someone mispronounces meteorology, but this time I knew there'd be thousands who'd feel it their duty to keep the studio exchanges blocked all night. And for any go-ahead comedian on a rival station the lapse was a god-send.

"Do you mind if I change the programme?" I asked Helen. "See if anything else is on."

"Don't. This is the most interesting part of the play. You'll spoil it."

"Darling, you're not even watching. I'll come back to it in a moment, I promise."

On Channel 5 a panel of three professors and a chorus girl were staring hard at a Roman pot. The question-master, a suave-voiced Oxford don, kept up a lot of cozy patter about scraping the bottom of the barrow. The professors seemed stumped, but the girl looked as if she knew exactly what went into the pot but didn't dare say it.

On 9 there was a lot of studio laughter and someone was giving a sports-car to an enormous woman in a cartwheel hat. The woman nervously ducked her head away from the camera and stared glumly at the car. The compère opened the door for her and I was wondering whether she'd try to get into it when Helen cut in:

"Harry, don't be mean. You're just playing."



L. HUTCHINGS

I turned back to the play on Channel 2. The same scene was on, nearing the end of its run.

"Now watch it," I told Helen. She usually managed to catch on the third time round. "Put that sewing away, it's getting on my nerves. God, I know this off by heart."

"Sh!" Helen told me. "Can't you stop talking?"

I lit a cigarette and lay back in the sofa, waiting. The apologies, to say the least, would have to be magniloquent. Two ghost runs at £100 a minute totted up to a tidy heap of dubloons.

The scene drew to a close, the old man stared heavily at his boots, the dusk drew down and—

We were back where we started from.

"Fantastic!" I said, standing up and turning some snow off the screen. "It's incredible."

"I didn't know you enjoyed this sort of play," Helen said calmly. "You never used to." She glanced over at the screen and then went back to her petticoat.

I watched her warily. A million years earlier I'd probably have run howling out of the cave and flung myself thankfully under the nearest dinosaur. Nothing in the meanwhile had lessened the dangers hemming in the undaunted husband.

"Darling," I explained patiently, just keeping the edge out of my voice, "in case you hadn't noticed they are now playing this same scene through for the fourth time."

"The fourth time?" Helen said doubtfully. "Are they repeating it?"

I was visualising a studio full of announcers and engineers slumped unconscious over their mikes and valves, while an automatic camera pumped out the same reel. Eerie but unlikely. There were monitor receivers as well as the critics, agents, sponsors and, unforgivably, the playwright himself weighing every minute and every word in their private currencies. They'd all have a lot to say under tomorrow's headlines.

"Sit down and stop fidgeting," Helen said. "Have you lost your bone?"

I felt round the cushions and ran my hand along the carpet below the sofa.

"My cigarette," I said. "I must have thrown it into the fire. I don't think I dropped it."

I turned back to the set and switched on the give-away programme, noting the time, 9.03, so that I could get back to Channel 2 at 9.15. When the explanation came I just had to hear it.

"I thought you were enjoying the play," Helen said. "Why've you turned it off?"

I gave her what sometimes passes in our flat for a withering frown and settled back.

The enormous woman was still at it in front of the cameras, working her way up a pyramid of questions on cookery. The audience was subdued but interest mounted. Eventually she answered the jackpot question and the audience roared and thumped their seats like a lot of madmen. The compère led her across the stage to another sports car.

"She'll have a stable of them soon," I said aside to Helen.

The woman shook hands and awkwardly dipped the brim of her hat, smiling nervously with embarrassment.

The gesture was oddly familiar.

I jumped up and switched to Channel 5. The panel were still staring hard at their pot.

Then I started to realise what was going on.

All three programmes were repeating themselves.

"Helen," I said over my shoulder. "Get me a scotch and soda, will you?"

"What is the matter? Have you strained your back?"

"Quickly, quickly!" I snapped my fingers.

"Hold on." She got up and went into the pantry.

I looked at the time. 9-12. Then I returned to the play and kept my eyes glued to the screen. Helen came back and put something down on the end-table.

"There you are. You all right?"

When it switched I thought I was ready for it, but the surprise must have knocked me flat. I found myself lying out on the sofa. The first thing I did was reach round for the drink.

"Where did you put it?" I asked Helen.

"What?"

"The Scotch. You brought it in a couple of minutes ago. It was on the table."

"You've been dreaming," she said gently. She leant forward and started watching the play.

I went into the pantry and found the bottle. As I filled a tumbler I noticed the clock over the kitchen sink. 9-07. An hour slow, now that I thought about it. But my wrist-watch said 9-05, and always ran perfectly. And the clock on the mantelpiece in the lounge also said 9-05.

Before I really started worrying I had to make sure.

Mullvaney, our neighbour in the flat above, opened his door when I knocked.

"Hello, Bartley. Corkscrew?"

"No, no," I told him. "What's the right time? Our clocks are going crazy."

He glanced at his wrist. "Nearly ten past."

"Nine or ten?"

He looked at his watch again. "Nine, should be. What's up?"

"I don't know whether I'm losing my—" I started to say. Then I stopped.

Mullvaney eyed me curiously. Over his shoulder I heard a wave of studio applause, broken by the creamy, unctuous voice of the give-away compère.

"How long's that programme been on?" I asked him.

"About twenty minutes. Aren't you watching?"

"No," I said, adding casually. "Is anything wrong with your set?"

He shook his head. "Nothing. Why?"

"Mine's chasing its tail. Anyway, thanks."

"OK," he said. He watched me go down the stairs and shrugged as he shut his door.

I went into the hall, picked up the phone and dialled.

"Hello, Tom?" Tom Farnold works the desk next to mine at the office. "Tom, Harry here. What time do you make it?"

"Time the liberals were back."

"No, seriously."

"Let's see. Twelve past nine. By the way, did you find those pickles I left for you in the safe?"

"Yeah, thanks. Listen, Tom," I went on, "the goddamdest things are happening here. We were watching Diller's play on Channel 2 when—"

"I'm watching it now. Hurry it up."

"You are? Well, how do you explain this repetition business? And the way the clocks are stuck between 9 and 9-15?"

Tom laughed. "I don't know," he said. "I suggest you go outside and give the house a shake."

I reached out for the glass I had with me on the hall table, wondering how to explain to—

The next moment I found myself back on the sofa. I was holding the newspaper and looking at 17 down. A part of my mind was thinking about antique clocks.

I pulled myself out of it and glanced across at Helen. She was sitting quietly with her needle basket. The all too familiar play was repeating itself and by the clock on the mantelpiece it was still just after 9.

I went back into the hall and dialled Tom again, trying not to stampede myself. In some way, I hadn't begun to understand how, a section of time was spinning round in a circle, with myself in the centre.

"Tom," I asked quickly as soon as he picked up the phone. "Did I call you five minutes ago?"

"Who's that again?"

"Harry here. Harry Bartley. Sorry Tom." I paused and rephrased the question, trying to make it sound intelligible. "Tom, did you phone me up about five minutes ago? We've had a little trouble with the line here."

"No," he told me. "Wasn't me. By the way, did you get those pickles I left in the safe?"

"Thanks a lot," I said, beginning to panic. "Are you watching the play, Tom?"

"Yes. I think I'll get back to it. See you."

I went into the kitchen and had a long close look at myself in the mirror. A crack across it dropped one side of my face three inches below the other, but apart from that I couldn't see anything that added up to a psychosis. My eyes seemed steady, pulse was in the low seventies, no tics or clammy traumatic sweat. Everything around me seemed much too solid and authentic for a dream.

I waited for a minute and then went back to the lounge and sat down. Helen was watching the play.

I leant forward and turned the knob round. The picture dimmed and swayed off.

"Harry, I'm watching that! Don't switch it off."

I went over to her. "Poppet," I said, holding my voice together. "Listen to me, please. Very carefully. It's important."

She frowned, put her sewing down and took my hands.

"For some reason, I don't know why, we seem to be in a sort of circular time trap, just going round and round. You're not aware of it, and I can't find anyone else who is either."

Helen stared at me in amazement. "Harry," she started, "what are you—"

"Helen!" I insisted, gripping her shoulders. "Listen! For the last two hours a section of time about 15 minutes long has been repeating itself. The clocks are stuck between 9 and 9-15. That play you're watching has—"

"Harry, darling." She looked at me and smiled helplessly. "You are silly. Now turn it on again."

I gave up.

As I switched the set on I ran through all the other channels just to see if anything had changed.

The panel stared at their pot, the fat woman won her sports car, the old farmer ranted. On Channel 1, the old BBC service which put out a couple of hours on alternate evenings, two newspaper men were interviewing a scientific pundit who appeared on popular educational programmes.

"What effect these dense eruptions of gas will have so far it's impossible to tell. However, there's certainly no cause for any alarm. These billows have mass, and I think we can expect a lot of strange optical effects as the light leaving the sun is deflected by them gravitationally."

He started playing with a set of coloured celluloid balls running on concentric metal rings, and fiddling with a ripple tank mounted against a mirror on the table.

One of the newsmen asked: "What about the relationship between light and time? If I remember my relativity they're tied up together pretty closely. Are you sure we won't all need to add another hand to our clocks and watches?"

The pundit smiled. "I think we'll be able to get along without that. Time is extremely complicated, but I can assure you the clocks won't suddenly start running backwards or sideways."

I listened to him until Helen began to remonstrate. I switched the play on for her and went off into the hall. The fool didn't know what he was talking about. What I couldn't understand was why I was the only person who realized what was going on. If I could get Tom over I might just be able to convince him.

I picked up the phone and glanced at my watch.

9-13. By the time I got through to Tom the next change-over would be due. Somehow I didn't like the idea of being picked up and flung to the sofa, however painless it might be. I put the phone down and went into the lounge.

The jump-back was smoother than I expected. I wasn't conscious of anything, not even the slightest tremor. A phrase was stuck in my mind: Olden Times.

The newspaper was back on my lap, folded around the crossword. I looked through the clues.

17 down: Told by antique clocks? 5, 5.

I must have solved it sub-consciously.

I remembered that I'd intended to phone Tom.

"Hullo, Tom?" I asked when I got through. "Harry here."

"Did you get those pickles I left in the safe?"

"Yes, thanks a lot. Tom, could you come round tonight? Sorry to ask you this late, but it's fairly urgent."

"Yes, of course," he said. "What's the trouble?"

"I'll tell you when you get here. As soon as you can?"

"Sure. I'll leave right away. Is Helen all right?"

"Yes, she's fine. Thanks again."

I went into the dining-room and pulled a bottle of gin and a couple of tonics out of the sideboard. He'd need a drink when he heard what I had to say.

Then I realized he'd never make it. From Earls Court it would take him at least half an hour to reach us at Maida Vale and he'd probably get no further than Marble Arch.

I filled my glass out of the virtually bottomless bottle of Scotch and tried to work out a plan of action.

The first step was to get hold of someone like myself who retained his awareness of the past switch-backs. Somewhere else there must be others trapped in their little 15-minute cages who were also

wondering desperately how to get out. I could start by phoning everyone I knew and then going on at random through the phone-book. But what could we do if we did find each other? In fact there was nothing to do except sit tight and wait for it all to wear off. At least I knew I wasn't looping my loop. Once these billows or whatever they were had burnt themselves out we'd be able to get off the round-about.

Until then I had an unlimited supply of whisky waiting for me in the half-empty bottle standing on the sink, though of course there was one snag: I'd never be able to get drunk.

I was musing round some of the other possibilities available and wondering how to get a permanent record of what was going on when an idea hit me.

I got out the phone-directory and looked up the number of KBC-TV, Channel 9.

A girl at reception answered the phone. After haggling with her for a couple of minutes I persuaded her to put me through to one of the producers.

"Hullo," I said. "Is the jack-pot question in to-night's programme known to any members of the studio audience?"

"No, of course not."

"I see. As a matter of interest, do you yourself know it?"

"No," he said. "All the questions to-night are known only to our senior programme producer and M. Phillippe Soisson of Savoy Hotels Limited. They're a closely guarded secret."

"Thanks," I said. "If you've got a piece of paper handy I'll give you the jack-pot question. 'List the complete menu at the Guildhall Coronation Banquet in July 1953.'"

There were muttered consultations, and a second voice came through.

"Who's that speaking?"

"Mr. H. R. Bartley, 129b Sutton Court Road, N.W.—"

Before I could finish I found myself back in the lounge.

The jump-back had caught me. But instead of being stretched out on the sofa I was standing up, leaning on one elbow against the mantelpiece, looking down at the newspaper.

My eyes were focussed clearly on the cross-word puzzle, and before I pulled them away and started thinking over my call to the studio I noticed something that nearly dropped me into the grate.

17 down had been filled in.

I picked up the paper and showed it to Helen.

"Did you do this clue? 17 down?"

"No," she said. "I never even look at the cross-word."

The clock on the mantelpiece caught my eye, and I forgot about the studio and playing tricks with other people's time.

9-03.

The merry-go-round was closing in. I thought the jump-back had come sooner than I expected. At least two minutes earlier, somewhere round 9-13.

And not only was the repetition interval getting shorter, but as the arc edged inwards on itself it was uncovering the real time stream running below it, the stream in which the other I, unknown to myself here, had solved the clue, stood up, walked over to the mantelpiece and filled in 17 down.

I sat down on the sofa, watching the clock carefully.

For the first time that evening Helen was thumbing over the pages of a magazine. The work-basket was tucked away on the bottom shelf of the bookcase.

"Do you want this on any longer?" she asked me. "It's not very good."

I turned to the panel game. The three professors and the chorus girl were still playing around with their pot.

On Channel I the pundit was sitting at the table with his models.

"... alarm. These billows have mass, and I think we can expect a lot of strange optical effects as the light—"

I switched it off.

The next jump-back came at 9-11. Somewhere I'd left the mantelpiece, gone back to the sofa and lit a cigarette.

It was 9-04. Helen had opened the verandah windows and was looking out into the street.

The set was on again so I pulled the plug out at the main. I threw the cigarette into the fire; not having seen myself light it, made it taste like someone else's.

"Harry, like to go out for a stroll?" Helen suggested. "It'll be rather nice in the park."

Each successive jump-back gave us a new departure point. If now I bundled her outside and got her down to the end of the road, at the next jump we'd both be back in the lounge again, but probably have decided to drive to the pub instead.

"Harry?"

"What, sorry?"

"Are you asleep, angel? Like to go for a walk? It'll wake you up."

"All right," I said. "Go and get your coat."

"Will you be warm enough like that?"

She went off into the bedroom.

I walked round the lounge and convinced myself that I was awake. The shadows, the solid feel of the chairs, the definition was much too fine for a dream.

It was 9-08. Normally Helen would take ten minutes to put on her coat.

The jump-back came almost immediately.

It was 9-06.

I was still on the sofa and Helen was bending down and picking up her work basket.

This time, at last, the set was off.

"Have you got any money on you?" Helen asked.

I felt in my pocket automatically. "Yes. How much do you want?"

Helen looked at me. "Well, what do you usually pay for the drinks? We'll only have a couple."

"We're going to the pub, are we?"

"Darling, are you all right?" She came over to me. "You look all strangled. Is that shirt too tight?"

"Helen," I said, getting up. "I've got to try to explain something to you. I don't know why it's happening, it's something to do with these billows of gas the sun's releasing."

Helen was watching me with her mouth open.

"Harry," she started to say nervously. "What's the matter?"

"I'm quite all right," I assured her. "It's just that everything is happening very rapidly and I don't think there's much time left."

I kept on glancing at the clock and Helen followed my eyes to it and went over to the mantelpiece. Watching me she moved it round and I heard the pendulum jangle.

"No, no," I shouted. I grabbed it and pushed it back against the wall.

We jumped back to 9-07.

Helen was in the bedroom. I had exactly a minute left.

"Harry," she called. "Darling, do you want to, or don't you?"

I was by the lounge window, muttering something.

I was out of touch with what my real self was doing in the normal time channel. The Helen talking to me now was a phantom.

It was I, not Helen and everybody else, who was riding the merry-go-round.

Jump.

9-07.15

Helen was standing in the doorway.

"... down to the ... the ... " I was saying.

Helen watched me, frozen. A fraction of a minute left.

I started to walk over to her.
to walk over to her
ver to her
er

I came out of it like a man catapulted from a revolving door. I was stretched out flat on the sofa, a hard aching pain running from the top of my head down past my right ear into my neck.

I looked at the time. 9-45. I could hear Helen moving around in the dining-room. I lay there, steadying the room round me, and in a few minutes she came in carrying a tray and a couple of glasses.

"How do you feel?" she asked, making up an alka-seltzer.

I let it fizzle down and drank it.

"What happened?" I asked. "Did I collapse?"

"Not exactly. You were watching the play. I thought you looked rather seedy so I suggested we go out for a drink. You went into a sort of convulsion."

I stood up slowly and rubbed my neck. "God, I didn't dream all that! I couldn't have done."

"What was it about?"

"A sort of crazy merry-go-round—" The pain grabbed at my neck when I spoke. I went over to the set and switched it on. "Hard to explain coherently. Time was—" I flinched as the pain bit in again.

"Sit down and rest," Helen said. "I'll come and join you. Like a drink?"

"Thanks. A big Scotch."

I looked at the set. On Channel 1 there was a breakdown sign, a cabaret on 2, a flood-lit stadium on 5, and a variety show on 9. No sign anywhere of either Diller's play or the panel game.

Helen brought the drink in and sat down on the sofa with me.

"It started off when we were watching the play," I explained, massaging my neck.

"Sh, don't bother now. Just relax."

I put my head on Helen's shoulder and looked up at the ceiling, listening to the sound coming from the variety show. I thought back through each turn of the round-about, wondering whether I could have dreamt it all.

Ten minutes later Helen said "Well, I didn't think much of that. And they're doing an encore. Good heavens."

"Who are?" I asked. I watched the light from the screen flicker across her face.

"That team of acrobats. The something Brothers. One of them even slipped. How do you feel?"

"Fine." I turned my head round and looked at the screen.

Three or four acrobats with huge v-torsos and skin briefs were doing simple handstands onto each other's arms. They finished the act and went into a more involved routine, throwing around a girl in leopard skin panties. The applause was deafening. I thought they were moderately good.

Two of them began to give what seemed to be a demonstration of dynamic tension, straining against each other like a pair of catatonic bulls, their necks and legs locked, until one of them was levered slowly off the ground.

"Why do they keep on doing that?" Helen said. "They've done it twice already."

"I don't think they have," I said. "This is a slightly different act."

The pivot man tremored, one of his huge banks of muscles collapsed, and the whole act toppled and then sprung apart.

"They slipped there the last time," Helen said.

"No, no," I pointed out quickly. "That one was a headstand. Here they were stretched out horizontally."

"You weren't watching," Helen told me. She leant forward. "Well, what are they playing at? They're repeating the whole thing for the third time."

It was an entirely new act to me, but I didn't try to argue.

I sat up and looked at the clock.

10-05.

"Darling," I said, putting my arm round her. "Hold tight."

"What do you mean?"

"This is the merry-go-round. And you're driving."

J. G. Ballard

1957 Satellite News

A new two-stage research missile named the "Terrapin" designed to obtain information for next year's American satellites was recently fired from a launching base off the Virginia coast, and rose to a height of 80 miles attaining a maximum speed of 3,800 miles an hour. Studies of the upper atmosphere are being made by the University of Maryland and a third stage for the projectile has now been designed which should boost it to more than 200 miles high.

The ultra-short story is one that we have never favoured, mainly because so few authors can master the technique of compressing a worthwhile idea into so few words and still produce a descriptive story with a punch at the end. Here is a model example by an American author who needs no introduction even though it is the first time he has appeared in New Worlds.

THE MESSAGE

By Isaac Asimov

They drank beer and reminisced as men will who have met after long separation. They called to mind the days under fire. They remembered sergeants and girls, both with exaggeration. Deadly things became humorous in retrospect and trifles disregarded for ten years were hauled out for an airing.

Including, of course, the perennial mystery.

"How do you account for it?" asked the first. "Who started it?"

The second shrugged. "Now one started it. Everyone was doing it, like a disease. You, too, I suppose."

The first chuckled.

The third one said softly, "It became a sort of symbol to me . . . Maybe because I came across it first when I was under fire for the first time. North Africa."

"Really?" said the second.

"The first night on the beaches of Oran. I was getting under cover, making for some native shack and I saw it in the light of a flare—"

George was deliriously happy. Two years of red tape and now he was finally back in the past. Now he could complete his paper on the social life of the foot soldier of World War II with some authentic details.

Out of the warless, insipid society of the Thirtieth Century, he found himself for one glorious moment in the tense, superlative drama of the warlike Twentieth.

North Africa ! Site of the first great sea-borne invasion of the war ! How the temporal physicists had scanned the area for the perfect spot and moment. This shadow of an empty wooden building was it. No human being would approach for a known number of minutes. No blast would seriously affect it in that time. By being there, George would not affect history. He would be that ideal of the temporal physicist, the "pure observer."

It was even more terrific than he had imagined. There was the perpetual roar of the artillery, the unseen tearing of planes overhead. There were the periodic lines of tracer bullets splitting the sky and the occasional ghastly glow of a flare.

And *he* was here ! He, George, was part of the war, part of an intense kind of life forever gone from the world of the Thirtieth Century, grown tame and gentle.

He imagined he could see the shadows of the advancing column of soldiers, hear the low cautious mono-syllables slip from one to another. How he longed to be one of them in truth, not merely a momentary intruder, a "pure observer !"

He stopped his note-taking and stared at his stylus, its micro-light hypnotising him for a moment. A sudden idea had overwhelmed him and he looked at the wood against which his shoulder pressed. This moment must not pass unforgotten into history. Surely doing this would affect nothing. He would use the older English dialect and there would be no suspicion.

He did it quickly and then spied a soldier running desperately toward the structure, dodging a burst of bullets. George knew his time was up, and even as he knew it, found himself back in the Thirtieth Century.

It didn't matter. For those few minutes he had been part of World War II. A small part, but *part*. And others would know it. They might not know they knew it, but someone perhaps would repeat the message for himself.

Someone, perhaps that man running for shelter, would read it and know that along with all the heroes of the Twentieth Century was the "pure observer," the man from the Thirtieth Century, George Kilroy. *He* was there !

Isaac Asimov.

As scientific investigation progresses—and more and more vast sums of money are requisitioned for Governmental research—we find that human knowledge is now uncovering micro-cosmic secrets hitherto but guessed at by research workers.

THE LITTLE NEUTRAL

By Kenneth Johns

After a search continuing for a quarter of a century, physicists have at last caught up with the elusive neutrino. Until recently most scientists thought there was little chance of trapping such a nuclear particle with no electrical charge and an almost infinitely small mass travelling unchecked through the densest of matter at near the speed of light.

But their calculations told them that the neutrino *must* exist: in fact, neutrinos *must* be flooding through all space and matter in their uncountable billions. What made the physicists pessimistic was that they had no methods delicate enough to detect neutrinos. Only now, using the most modern of precision instruments and giant detectors, has positive proof of their existence been obtained.

At the beginning of this century, nuclear physics was a very simple science. Only negative electrons and positive protons were considered necessary to build every conceivable atom in the cosmos—certainly none of the complexities of modern theory was

dreamed of. And then the neutron, heavy and with no charge, was discovered.

The neutron and its associated theories as to the structure and disintegration of atoms led directly to the first nuclear pile, a secret test in the desert, and then on to the deadly mushrooms billowing over Hiroshima and Nagasaki. Further development created many nuclear piles for power and weapon production all over the world.

Heavy concrete and lead shields round these piles prevent deadly radiation from reaching the operators and from contaminating the atmosphere. But neutrinos are also generated in vast numbers and flash through the thick shielding as though it was non-existent.

The greatest neutrino source near us is the Sun. From it every second burst billions, traversing the dense inner layers as easily as the relative emptiness of space. Calculations show that a 50 light-year thick shield of solid lead—a concept so stupendous as to be near inconceivable—would be needed to have an average chance of stopping a neutrino. Not even all that could guarantee it. Day and night, unceasing, they speed through the Earth, pouring up towards us from the hidden sun at midnight and streaming down with the sunlight at midday.

At any given moment, any volume the size of a matchbox contains 100 neutrinos are on their way to infinity.

The search for the neutrino began when it was realised that some nuclear reactions did not completely balance—part of the energy was disappearing in a strange manner.

Unless the law of conservation of energy and mass, the foundation of physics and chemistry, was merely another fairy story, there must be some new, unknown method, by which this energy was being lost. Nobel prizewinners Enrico Fermi and Wolfgang Pauli postulated the existence of the undetectable neutrino, thus shoring up the foundations of nuclear theory.

But it was still only a postulate, and might just as well be as incorrect as the old phlogiston theory of combustion. There remained a doubt that neutrinos really did exist at all.

There was no alternative: for their peace of mind physicists had to prove or disprove the neutrino theory.

It was an easy decision and an extremely tough task—attempting to detect neutrinos with a Geiger counter is like trying to catch bacteria with a fishnet: both methods are by many degrees too crude. Luckily, theoretical physics said that neutrinos should very occasionally react with the nuclei of hydrogen atoms and accord-

ingly most of the experiments designed to signal the presence of neutrinos attempted to increase this chance and measure the damage done in the resulting single atomic explosion.

It isn't even as if neutrinos are rare, seven per cent of the energy of the Sun is radiated as neutrinos and few of them are blocked by the air. Billions more are produced by beta-decay in nuclear piles and these were the happy hunting grounds of the neutrino experts.

In the Sun, two hydrogen nuclei interact to produce the H-bomb isotope, deuterium, together with neutrinos, while nitrogen nuclei disintegrate to give carbon and neutrinos. And everywhere where there are free neutrons there must be neutrinos—neutrons spontaneously disintegrate with a half-life of 12 minutes to give a proton, an electron and a neutrino.

When this neutron disintegration occurs in a photographic emulsion or a cloud chamber, the tracks of the electron and proton may be seen as they recoil from the scene of the explosion. They give a V-shaped track. If only two particles are formed they could recoil only in exactly opposite directions; that they go off at an angle to each other forming the V-track means that there must be a third particle leaving no track of its movements.

But all this was still only hypothetical evidence for the existence of the neutrino. The only complete answer was to capture some—slowing them down or measuring their collision products.

Early workers had available only weak neutrino sources and all their attempts to distinguish neutrino collisions from the background "noise" of stray cosmic rays and natural radio-activity were doomed to failure.

Theoretical physicists had calculated that a neutrino should very occasionally smash head on into a hydrogen nucleus with the formation of a neutron and a positron, a positively charged electron. Luckily, both of these are easy to detect. But how could this reaction be distinguished from all the other ones producing neutrons and positrons?

In 1955 a group of physicists from Los Alamos working with the nuclear reactors at Hanford, Washington, managed to obtain somewhat doubtful evidence in favour of the existence of neutrinos; but their apparatus was not large enough nor were the available neutrino sources intense enough to produce positive identification.

So, doggedly persevering, the physicists moved down South to the Savannah river plant, centre of plutonium production and hydrogen bomb research and production in the United States. Here the most powerful nuclear reactors on Earth—and hence the

greatest intensity of neutrinos—were made available to them. They rebuilt their apparatus on a very much larger scale and bedded it deep in the concrete housing the main reactors. There, shielded by the concrete from most cosmic rays, they constructed the largest radiation detector yet conceived by scientists.

A 1,000 gallon tank, lined with a new type of light-reflecting, corrosion-resisting enamel, was built. A special clear, scintillating liquid, previously obtainable only in pint quantities, was transported there in tons by a special tanker designed to eliminate completely every chance of its exposure to air. The tank of liquid was surrounded by lead and watched over by banks of 330 photo-electric cells ready to signal flashes of light so faint they are invisible to the naked eye.

But just counting flashes is not good enough; the solution of the problem demands something more. There must be a certain deliberate and particular sequence of flashes heralding the death of a single neutrino amongst the billions passing undisturbed through the whole massive chamber full of equipment.

The liquid in the tank was a complex mixture of water and hydrocarbons, both rich in hydrogen, together with dissolved cadmium salts. At the top and bottom of the tank layers of clear plastic, able to scintillate when hit by gamma rays, formed a sandwich with the liquid between.

Into the trap went fantastic size, cleanliness, purity and protection. The slightest contamination would ruin everything.

The collision of the ill-fated neutrino with a hydrogen nucleus produces a neutron and a fast moving positron, the latter smashing its way through half an inch of the liquid with the production of a flash of light before it is brought to rest. This is flash number one.

As soon as it stops moving, the positron cancels itself out by reacting with an electron, plenty of which are present in all matter, with the creation of two gamma rays travelling in opposite directions. Gamma rays are similar to X-rays and travel at the speed of light to produce two flashes, one in each of the plastic layers bordering the tank, at the same instant as the first flash.

In the meantime the neutron meanders off, moving more and more slowly as it collides with other atoms and loses energy. Eventually, on the average after a distance of three feet has been covered, it hits and is absorbed by a cadmium atom, with the production of several gamma rays. There is a measurable time lapse—about a hundred thousandth of a second—before this happens, and these gamma rays produce sparkles of light in the plastic phosphors.

So the trapping of a neutrino should result in an exact and precisely timed series of flashes of light in the liquid and plastic scintillants.

The chance of this happening by coincidence because of stray radiation is small and can be checked by means of blank tests well away from a nuclear reactor neutronic source. Too, cosmic rays are the chief offenders, and these liberate far more than the expected and watched for energy of the light flashes.

In June, 1956, the Atomic Energy Commission announced that the experiment was completely successful and that neutrinos are a reality.

After running their detector for 1,371 hours, the Los Alamos group found that two or three neutrinos an hour were trapped and their death cries were exactly as postulated by theory.

Apart from the physicists, who were successful, the chemists also thought up a method of detecting neutrinos. As yet, no positive results have been published.

Chemists of the Brookhaven National Laboratories went to work at the Savannah piles. They buried a tank of four tons of carbon tetrachloride, the dry-cleaning solvent, under the concrete. With the seemingly magical ability of modern chemists to pick one atom out of a billion others, they hoped to separate the atoms created by the collision of neutrinos with chlorine atoms in the carbon tetrachloride. One theory holds that this should give argon, one of the inert gases similar to helium.

But this is worse than searching the apocryphal haystack without the aid of a magnet. There is always some argon hanging around; however, the chemists have the advantage of knowing that the atoms they are seeking are radioactive, unlike most of these natural argon atoms.

The chemists hope that their Geiger counters will show the presence of radio-activity in the gas swept out of the carbon tetrachloride after several days' exposure.

A similar experiment, on a smaller scale, at the Chalk River reactors in Canada failed.

Having detected them, the brighter physicists would like to measure accurately their intensity and direction.

The practical applications would be many—for all ordinary matter is transparent to neutrinos.

To gain some concept of their use, imagine the Earth as being composed of a perfectly clear solid, so that telescopes could see

completely through it. Any bright lights—cities, power plants and the like—would stand out like beacons in the night. In exactly the same way, if the neutrino detector were used in place of the telescope, the Earth would appear to it to be transparent. And nuclear reactors, stockpiles of nuclear weapons, would shine out like beacons, emitting neutrinos instead of visible light.

Any nation with such a detector will be able to pinpoint all types, numbers and sizes of nuclear energy sources through the globe—shielding and secrecy will be impossible.

Physicists also have hopes that neutrinos will lead to more information on the secrets of the structure of the atomic nuclei. Astronomers, looking to the future, see neutrinos from distant stars and galaxies, reaching the Earth unobscured by intervening dust clouds and the atmosphere, as a new and brilliant means of investigating the Universe.

Kenneth Johns

Magazines About Spaceflight

The more technical-minded readers will be pleased to know that the British Interplanetary Society has now commenced publishing a quarterly magazine entitled *Spaceflight* which is on sale to the general public at all bookstalls price 3/- per copy. The first issue, dated October has seven articles of interest to everyone who follows in astronautics.

Somewhat overshadowing this British effort but considerably harder to obtain is the new monthly *Missiles And Rockets* (magazine of world astronautics) published in USA by American Aviation Publications at 63/- a year, which leads off its first (October) issue with a Dr. Werner von Braun article on "Human Relations and Guided Missile Development."

DOUBLE

This is just an ordinary adventure story — you might say. Well—a science fiction adventure, perhaps. Or is it? Seems that the main character is mixed up in a very peculiar type of adventure indeed. You can rely upon author Richard Wilson to make the most of such peculiarities.

TAKE

By Richard Wilson

Paul Asher, 27, men's furnishings buyer, leaned back and let the cloth band be fastened across his chest, just under his armpits. He adjusted his heavy spectacles, closed his eyes for a moment, breathed deeply, and was off.

The semi-darkness was dispelled as he shot out of a tunnel into dazzling sunlight. The high-powered vehicle he was driving purred smoothly as it took the long, rising curve. The road climbed steadily toward the mountaintop city ahead. He looked around to satisfy himself that he was alone in the car.

He wasn't.

The girl was a pretty one. He'd seen her somewhere before, he thought. She was looking insolently at him, her wide red mouth in a half smile. Her dark hair stirred in the breeze coming through the window, next to her, which was open just a slit.

She said: "Just keep going, Sweetheart, as fast as you can." And she patted the oversized pocketbook that lay in her lap.

He pressed down on the accelerator and the car responded with a flow of power. The countryside fell away from the road on either side. Far below he could see a river, winding broadly to the far-off sea. The summer day sent its heat-shimmers across the miniature landscape.

The road curved again. Theirs was the only car he had seen since he'd come out of the tunnel. But now, far ahead, he saw another. It was standing at the side of the road, next to a gate that came down in the manner of one at a railroad crossing. But he knew by its black and white diagonals and by the little sentry hut hidden behind the other car that it marked the frontier. A man with a rifle on his shoulder stood there. They drew up to it fast, but his foot automatically eased up on the floorboard pedal until the girl spoke sharply.

"Right through it, Sweetheart."

In the rearview mirror he saw her leaning forward, her face tense.

In a moment it would be time to stop, if he were going to.

Paul Asher hesitated a moment. Then he too leaned forward, the band pressing into his chest. He was breathing heavily. There was an almost inaudible click.

He trod on the accelerator. He had a glimpse of the guard unslinging his rifle from his shoulder and of another man running toward the parked car as his vehicle smashed into the flimsy gate and sent it, cracked and splintered, to the side of the road. He fought the slight wrench of the wheel and sped on. He thought he heard a shot.

"Nice work," the girl said. She seemed to be appraising him as she looked at him. "My name, incidentally, is Naomi."

"Hello," he heard himself saying as he whipped the car around a curve that hid the frontier behind a hill. "You seem to know who I am."

"That I do," she said.

"Then why don't you call me by my name, instead of 'Sweetheart'?"

"That's because I like you, Sweetheart." She was looking out the rear window. "Now just step on the gas, because we've got company."

The car that had been parked near the sentry hut was whipping into view around the curve. It was lighter than his, but it was fast, too. He stepped on the accelerator.

Now the road had become narrow and twisting. The grade was steep but the surface was good. Abruptly, it entered a forest.

The girl said: "Two more curves. Then you'll see a field and a barn. Off the road and into the barn fast."

He took the curves with rubber screaming and almost without braking sent the car bumping across the field and into the barn. It was bigger than it had seemed from the outside. As he brought the car to a lurching halt the barn door closed.

Where he had expected to see stalls and milking machines and hay he saw an expanse of metal floor and monstrous machinery. The barn door which had been a rickety wooden slab from the outside was a gleaming sheet of metal from the inside. It glided silently shut and left no joint or seam to show where there had been an opening.

"Out," said Naomi.

As they left the car, a flexible metal arm snaked from one of the smooth walls, attached itself to the front bumper of the vehicle, and whisked it into a cubicle which opened to receive it and closed behind it.

A power-driven wheelchair sped up to them. Sitting in it was a fat man of middle age, with pendulous jowls and a totally bald head. His expression was a sardonic scowl.

"You have the plans?" he asked the girl.

"Sweetheart here has them."

"I don't know what you're talking about," the young man said.

"He knows, all right," the girl said. "He pretends to be innocent, but that is merely his training. He has them under a sticking plaster on the small of his back."

"Remove your coat and shirt," commanded the man in the wheelchair.

At that moment the floor shuddered under their feet, a gong began to clang insistently, and the giant machinery, which had been silent, throbbed into life.

The man in the wheelchair whirled and was off, shouting commands to men who materialized high on the walls in cylindrical turrets which the visitor could only think of as battle stations.

"What *is* this place?" he asked.

He got no answer. Instead the girl grabbed his arm and pulled him off to the edge of the gigantic metal room. An opening appeared in the wall and she pushed him through it into a room beyond. The entranceway snapped shut behind them and when he looked he could see no door. The room also was windowless.

Naomi went to a metal table and as she looked down into its surface it became a screen. Mirrored in it was the mountainous countryside they had driven through to get to the barn—or what

had seemed to be a barn from the outside. He looked over her shoulder.

They saw as from a height. There was the light car that had chased them from the frontier. Standing near it was a man in an officer's uniform and another in civilian clothes. They were talking and gesturing. Beside the car was a tank. As they watched, its gun fired and the structure they were in shuddered, but they heard no sound.

Lumbering up the mountain road were more tanks and a self-propelled gun. One of the tanks became enveloped in smoke and flames as they watched. After a moment the smoke cleared. The tank was gone; where it had been there was a deep crater.

Gradually, the figures in the drama below grew smaller. At the same time the vista widened, so that they saw more and more countryside. It twisted beneath them and the horizon came giddily into view. A few moments later the curvature of the earth could be plainly seen.

Everything fitted together at once. Some of the things, anyway. "We're in a ship," he said. "Some kind of rocket-ship." "It's a planet plane," the girl said. "We're safe now." "Safe from what?" he asked. "What's this all about?" She smiled enigmatically. "Hafitz could tell you, if he chose. He's the boss."

"The man in the wheelchair?"

She nodded and took out a compact. As she added lipstick to her mouth she looked him over, between glances in her mirror.

"You don't look like the spy type. If there is a type."

"I'm not a spy. I don't know what you're talking about."

"The innocent! Go on, take off your coat and shirt. We'll save Hafitz some time."

"I'll be glad to, just to prove this is all ridiculous. A case of mistaken identity. You've made a mistake, that's what you've done."

He stood there, hesitating.

The girl gave a burst of laughter. Then she said: "All right, Sweetheart. I'll turn my back."

She did, and he pulled his shirt out of his trousers. Then he froze. Taped to the skin of his back was a flat package.

Paul Ashed made the decision. He bent forward, feeling perspiration in the palms of his hands. There was a faint click.

Quickly he ripped the adhesive from his back. There was an instant of pain as the plaster came free. He wadded up the sticky package, dropped it to the floor and kicked it under the desk.

Then he took off his coat, tie and shirt.

"You can turn around now," he said.

"A more modest spy I've never seen. Okay," she said, "now you turn around."

"As you see," he said, "there are no plans—no papers."

"No—not now. But there is a red mark on your back. What is it?"

"Oh," he said. "Oh—that's a birthmark."

She spun him around to face her. Her face was harsh. She slapped his check. "Where is the sticking plaster? Don't trifle with me."

Her eyes bored into his. He returned the gaze, then shrugged.

"Under the desk," he said. "I tore it off and kicked it under the desk."

"You are sensible to confess," she said.

She bent down, unwisely.

Paul Asher felt the familiar tightening in his chest as he leaned forward. The click was barely heard.

He raised his hand and brought the edge of it down hard on the back of her neck.

She crumpled and fell to the metal floor. He noticed that a smear of her freshly-applied lipstick came off on it.

He pushed the unconscious body aside and fished the packet out from under the desk. He searched the room for another hiding place.

But it was too late. A section of wall opened and Hafitz, the fat man in the wheelchair, sped in.

He wheeled past the young man, looked briefly at the unconscious girl, then whisked himself around.

"You will pay for this, my friend," he said. "But first we will have the plans for the way-station. Where are they?"

"I don't know anything about any plans and I don't know anything about a way-station. I tried to tell the girl; it's all a crazy mistake."

"We will see," said Hafitz. He pressed a button on the arm of his wheelchair and two bruisers appeared through the walls, in the abrupt way people had of materializing here. Bruisers was the only way they could be described. They were human brutes, all muscle and malevolence.

"Take them," said Hafitz, indicating the unconscious girl and the young man. "Take them and search them for a small packet. If you do not find it, search this room. If you do not find it still, hurt the male animal. They persuade well with pain here, I understand. But do not kill him. I will be in the communications room."

He sped off, through a wall opening.

One of the bruisers picked up the girl, roughly, and disappeared with her. The other grabbed the young man and hauled him off in a third direction. The young man hastily snatched up his coat, shirt and tie en route.

They ended up in a cell of a room, about seven feet in all directions, in which the bruiser stripped him, methodically went through each piece of clothing, and then satisfied himself that he didn't have the packet anywhere on his body.

The muscle-man then raised a fist.

"Wait," his prospective victim said. He thought back quickly. "Hafitz didn't say you could bat me around till you searched the room, too."

The other spoke for the first time. "You say the truth." He put his arm down.

The young man watched intently as the bruiser went through the wall of the cell-like room.

He dressed fast. By placing his fingers in exactly the same position as the other had done, he was able to make the wall open for him.

The silver-metal corridor had two directions. He went to the right. After many turnings, at each of which he reconnoitered carefully, he came to a passageway that was damp. Why it was damp he couldn't tell, but there in the wetness were tracks which could have been made by a wheelchair.

He followed them, feeling the throb of giant engines underfoot.

The wheelchair tracks abruptly made a ninety-degree turn and ended at a blank wall. Somewhere beyond it must be the communications room.

He retreated and waited.

In time the wall snapped open and Hafitz sped out. The young man retreated into the maze of corridors and hoped chance would be on his side. It was. Hafitz went another way.

The young man ran back to the wall and used his fingers on it in the combination he had learned. It opened for him.

He closed it behind him and blinked at the huge instrument panel which filled almost the entire room.

One of the instruments was a colour vision screen, tuned in to a room in which there was a mahogany desk, at which was seated a man in uniform. Behind him was a map of the United States.

The man in uniform was a major general in the Air Force. An aide, a lieutenant colonel, was leaning over the desk. He had a sheaf of papers in his hand. The men's conversation was audible.

"Messages have been coming in from all over Europe," the colonel was saying. "Here's the way it reconstructs:

"Our agent was en route to the rendezvous when he was intercepted by Naomi. That's the only name we have for her. She's a spy. She's worked for half a dozen countries and her present employer could be any one of them. They were spotted as they crossed the frontier between Italy and France. Their car went into a barn and we thought we had them. But the barn turned out to be a spaceship in disguise. It took off."

So I'm their agent, Paul Asher thought. So that's what it's all about. I'm a secret agent for the United States, but they didn't tell me anything about it. This is real George, this is . . . He expected to hear a faint click and leaned forward experimentally, but nothing happened. He leaned backward. Still nothing.

The colonel was answering a question from the general. "We don't know who they are, Sir. They're not from Earth, obviously. And the best scientific minds go still further—they're not even from our solar system. Whoever they are, it's clear that they don't want us to build a way-station in space."

"Those spaceships started buzzing around right after our first Moon trip," the general said. "This is the first time they've become really troublesome—now that we've got the Moon under control and are ready to build the way-station so we can get to Mars."

"That's right, Sir," said the colonel.

"Progress is a wonderful thing," said the general. "Things certainly have changed since those early days of strategic atomic bombing and guided missile experiments."

"Yes, Sir," said the colonel.

The young man in the communications room of the spaceship let his attention wander away from the scene back on Earth and experimented with some of the switches and controls. Trial and error led him to one which lit up a signal on the desk of the general.

The general flicked it on.

"Yes?" he said. He looked puzzled when he got no picture, just a voice saying, "Hello, hello."

"Yes?" he said. "Hello. Speak up, man."

"This is your agent aboard the enemy spaceship," said the young man. "Do you read me?"

"Yes," said the general. "We read you. Go ahead."

"I may not have much time. Get a fix on me if you can. And send me help."

"What's your position?" the general was reacting well. He was alert and all business.

"I don't know. I've been taken prisoner, but I'm temporarily free. There isn't much time.. Hafitz is bound to be back soon. He seems to be the brains of this outfit—this part of the outfit, anyway. Naomi is here, too, but I don't know whether she's with them or against them."

"Where are the plans, son?" asked the general.

"They're safe, for the moment. I can't guarantee for how long."

"I'm getting the fix," the colonel said. He was beyond the range of the young man's vision screen. "I've got him. He's still within range, but accelerating fast. We can intercept if we get up a rocket soon enough."

"Get it up," ordered the general. "Get up a squadron. Scramble the Moon patrol and send out reserves from Earth at once."

"Right!" said the colonel.

The young man was so engrossed in the makings of his rescue party that he didn't see the wall open up behind him.

There was a squeak of rubber tyres and he whirled to see Hafitz, in his wheelchair, slamming toward him. The fat man's hand held a weird-looking gun.

The young man recoiled. His back pushed against a row of control buttons.

Then everything went white.

Paul Asher blinked his eyes, like a man awakening from a vivid dream.

The house lights went on and the manager of the theatre came on the stage. He stood in front of the blank master screen with its checkerboard pattern of smaller screens, on which the several lines of action had taken place simultaneously. Paul took off his selectorscope spectacles with the earphone attachments.

"Ladies and gentlemen," the manager said. "I regret very much having to announce that this vicaration of the production *Spies from Space*, was defective. The multi-film has broken and, because of the complexity of the vokie process, it will be impossible to splice it without returning it to the laboratory.

"Ushers are at the exits with passes good for any future performance. Those of you who prefer can exchange them at the box office for a full refund of your admission price."

Paul Asher unstrapped the wired canvas band from across his chest. He put the selectorscope spectacles into the pouch on the arm of the seat and walked out of the R.K.O. Vicarion into High Street and around the corner to where his car was parked.

His room-mate at the communapt, MacCloy, was still up when he got there, going over some projectos. Mac snapped off the screen and quickly swept the slides together and into a case.

"You're back early," MacCloy said.

"The multifilm broke," Paul told him.

"Oh." Mac seemed abstracted, as he often did, and again Paul wondered about this man he knew so casually and who had never confided in him about anything—especially about his government job.

"So I missed the ending," Paul said. "I guess it was near the end, anyhow. The space patrol was on the way, but the villain, that Hafitz, was just about to blast me with his gun and I don't know how I would have got out of that."

"I remember that," Mac said. He laughed. "You must have been Positive all the way through. Like I was when I saw it. If you'd had any negative reactions—if you'd leaned back against the strap instead of forward—you'd have been at some other point in the multi-plot and I wouldn't have recognized that part. Want me to tell you how it ends?"

"Go ahead. Then if I do see it again I'll change the ending somewhere along the line with a leanback."

"Okay. There really wasn't much more. It takes so much film to provide all the plot choices that they can't make them very long.

"Well, Hafitz blasts me and misses," Mac went on, "—or blasts *you* and misses, to keep it in your viewpoint. When you jump back, you set off a bunch of controls. That was the control room, too, not just the communications room. Well, those controls you lean back against take the ship out of automatic pilot and send it into some wild acrobatics and that's why Hafitz misses. Also it knocks him out of the wheelchair so he's helpless and you get his gun. Also you see that the plans are still there—right where you put them, stuck to the bottom of his wheelchair."

"So that was it," said Paul.

"Yes," said Mac. "And then you cover Hafitz while he straightens out the ship and you rendezvous with the space control and they take you all into custody. You get a citation from the government. That's about it. Corny, huh?"

"But what about the girl?" Paul asked. "Is she really a spy?"

"Girl? What girl?"

"Naomi, her name was," Paul said. "You couldn't miss her. She was in the vokie right at the beginning—that brunette in the fast car."

"But there wasn't any girl, Paul," Mac insisted. "Not when I saw it."

"Of course there was. There had to be—the vikies all start out the same way, no matter who sees them."

"It beats me, pal. I know I didn't see her. Maybe you dreamed up the girl."

"I don't think so," Paul said. "But of course it's possible." He yawned. "I wouldn't mind dreaming of her to-night, at that. Think I'll turn in now, Mac. I've got that long trip to-morrow, you know. Up to Canada to look over a new line of Marswood sport jackets at the All-Planets Showroom."

"Driving or flying?"

"The weather prognosis is zero-zero. I'll drive."

"Good," said Mac.

Paul Asher woke up late. He had a confused recollection of a dream. Something about a beautiful brunette giving him a back-rub.

A look at the chrono sent the dream out of his head and he hurried through shaving and dressing.

His car was waiting for him, engine idling, at the curb. He got in, tossing his briefcase and topcoat ahead of him to the far side of the front seat. His back began to itch, insistently, and he rubbed it against the leather upholstery.

Paul adjusted the safety belt around him, and fastened it. Might as well do it now, instead of having to fool around with it later. Damn that itch, anyway! It was as if something were stuck to his skin—like a sticking plaster . . .

The high-powered vehicle purred smoothly as it took a long, rising curve. The road climbed steadily toward the mountaintop city ahead.

The scene was familiar.

The itching of his back spread and became a prickly feeling in the small hairs at the nape of his neck.

He knew now that he was not alone in the car. He looked in the rear-view mirror.

Naomi.

She was looking at him insolently, her wide red mouth in a half smile.

She said: "Just keep going, Sweetheart, as fast as you can."

Richard Wilson

This is the type of psychological story which has become very popular of late—an exploration team from Earth landing on an alien planet and having little or nothing in common with the inhabitants, but forced to find a common talking-point. Dan Morgan solves the problem in a neat and satisfactory manner.

THE WHOLE ARMOUR

By Dan Morgan

Illustrated by LEWIS

The motors coughed and died. Gregson allowed his wiry form to slump back in the pilot's seat and took his first deep, relaxed breath for over an hour. It had been a bad landing, but under the circumstances, with twenty per cent of his stabilizing jets out of commission, any sort of a landing short of a pile-up was a miracle.

"Have we arrived?" Maxwell's precise, slightly squeaky voice asked.

Gregson started to swear, but checked himself in time. Swinging the pilot chair round he faced the other members of the Contact Team. It gave him some satisfaction to note the paleness of their faces, and the way their hands shook as they unhitched their safety belts. They looked as if they had had a bad time, bad enough to appreciate the skill that had gone into the manoeuvring of such a landing.

All except Maxwell. His pink, round-cheeked face was bright and attentive as he sat there with his stubby hands interlocked over the little pot of his stomach. He looked for all the world like an eager schoolboy, waiting for the roller coaster to start moving again.



"We're nearly two miles out from the village," said Vandenberg, the Psyche, accusingly.

Gregson sucked in his long top lip. "Now why didn't you say so, Mister Vandenberg?" he said with heavy sarcasm. "If I'd have known you were so anxious we could have landed in the main street—nose first."

Vandenberg raised one handsome eyebrow. "Merely an observation. I'm sure you did your best not to inconvenience us." He turned away haughtily.

"That's all very well for you," said Lang, the semanticist. "But I've got a lot of equipment to lug around."

"I wouldn't worry too much about that." Gregson hefted himself out of the pilot seat. "The Vadilins are humanoid, but don't forget that UNCO-OPERATIVE rating the scout gave them. If that applies to the females of the species, tall dark and greying at the temples here might even give you a chance to cart your talk boxes around in the runabout for once."

Gregson knew that the specialists, particularly Vandenberg, looked upon him as little more than a chauffeur, despite his commander's rating. And he, for his part, regarded them as a quarrelsome bunch of ever-educated knowalls, truly representative of the type of mind that was gradually taking all the kick and uncertainty out of interstellar exploration.

"Anyway," he continued, "right now, nobody will be going anywhere until I have taken a look at those jets and replaced those which are damaged. For all we know we may be walking into a pile of trouble here with a Class IX civilisation that has a rating like that."

"I wouldn't place a lot of credence in that, if I were you," said Broom, the sandy-haired little anthropologist, the end of his sharp nose twitching like that of an alert mole. "These scouts are notoriously inaccurate in their collation of basic data, and some of them seem to delight in setting jolly little riddles for the Contact Team to solve."

Gregson accepted the criticism of the scout arm of the Exploration Command as a personal slur—after all, scouts *were* pilots. "Be that as it may, my job is to have this ship in A1 condition ready for blast-off—just in case you geniuses should run into anything you can't handle."

"From a group of Class IX aliens?" Vandenberg gave a superior grin. "Really, old chap, sometimes I think you're getting a bit old for this job."

The muscles around Gregson's mouth tightened. "One of these days you're going to run across a bunch of aliens who won't listen to your sweet talk, personality boy. Then we'll see."

Vandenberg said: "We've come a long way since the old days when people like you landed slap in the middle of a civilisation and gave them the benefits of Solarian culture in the shape of a blaster."

Gregson ignored the goad and turned towards the door. True they had carried weapons on those first exploration trips, but they had not used them unless they had been compelled to. Besides, that had been before the Kretz one-man force-screens that now enabled a Contact Team to walk into anything short of an atomic war with impunity. When you were impregnable you could afford to rely on talk. But nevertheless, he meant to make sure that the ship was in good condition, just in case. There was no sense in taking any chances, apart

from the safety of the team members there was Maxwell to think about. The admiral had made it pretty clear that he held Gregson personally responsible for the man's safety.

Funny thing about Maxwell ; Gregson couldn't quite look upon him in the same way as he did the others, although he *was* really a kind of specialist. If it weren't for his interminable questions he would be a pleasant enough little fellow. The only thing that damped Gregson's naturally friendly feelings was an uncomfortable suspicion that Maxwell's presence on this trip foreshadowed yet another change of plan by the Exploration Commission. The commander had very little respect for the armchair planners of that body, who had seen fit to introduce such misguided regulations as the one which forbade a Contact ship to carry any armament.

Maxwell had no official standing with the team, and he himself had begged them all as soon as he came aboard to ignore his presence and carry on in the usual manner. Gregson, for one, did not find that easy.

Orders were to show Maxwell everything he asked to see and to co-operate to the fullest extent. Gregson had been more willing to comply with this when he had noticed that most of the specialists, particularly Vandenberg, seemed ill-at-ease in the company of the chubby little man with his ready smile and rather childish variety of jovial chatter. He had been very little trouble, except that upon occasion he had made the most obvious and dangerous slips through his ignorance of spacegoing procedure. The business with the airlock as they were returning from the flagship had given Gregson a very nasty moment, but either Maxwell had not realised the seriousness of the possible consequences of his carelessness, or he had the kind of nerve that demanded respect.

Gregson stood with his hand on the main lock control about to carry out his investigation, when he heard footsteps behind him. Maxwell, slightly out of breath, hurried towards him.

"Oh, I am pleased I was in time, commander," beamed the little man. With his yellow, fuzzy hair he looked almost like an oversize teddy-bear—and an exploration ship was no place for teddybears, reflected Gregson. "I say, would you indulge my fancy by allowing me to be one of the first two Earthmen to step on this alien planet? I promise I won't get in your way."

Gregson could think of no good reason for refusing. "First three," he said gruffly. "Don't forget the scout was here first. All right, come along then, if you like—but please keep close to me, just in case."

The outer door of the lock lowered itself gradually until it rested on the ground forming a ramp leading down to an expanse of impossibly green, sunlit grass. It was at moments like this that the drab colourlessness of life aboard a starship was brought home even to the inartistic soul of Dick Gregson. For Maxwell, it was rapture, the little man chattered his delight as he followed the lithe figure of the commander down the ramp.

The condition of the jets was all Gregson had feared and worse. A large number of them were fused, choked masses of metal that would require complete replacement if the ship was ever to blast-off again. The ravening fires of the reaction drive had badly mangled the housing in several cases. The ship was equipped for such an emergency, but the handling of the parts and their replacement would be a long and heavy job.

Gregson grinned. He was anticipating the reaction of the specialist members of the team when they realised that they were the only available labour force to carry out the task of refitment.

"Did Vandenberg say that there was an alien village near here?" asked Maxwell eagerly. "Do you think we have time to just trot over and have a look?"

Gregson turned, his grin changing to an expression of astonishment. And this was the man for whose life the admiral had made him responsible! It was going to be no easy assignment on a presumably hostile planet.

"I think perhaps we had better leave that pleasure until later, if you don't mind," he said gently, with an effort. "Right now, as I explained to the members of the team, the main thing is to repair the ship."

"Ah yes, I suppose you're right; work before pleasure," agreed Maxwell with boyish reluctance. "You must forgive me, Commander, but this is all so new and exciting to me." He added as Gregson started to walk back up the ramp: "One thing, Commander—I hope you will allow me to help with this work?"

"I don't know about that . . ." began Gregson, and then seeing the disappointment of the other, he changed his mind. "Thank you—I believe your example would be a great help." The two of them walked back up into the ship.

The work of unloading the spare parts progressed with an exasperating slowness that was only enlivened for Gregson by the occasion when Maxwell, struggling manfully with a liner of almost the same dimensions as himself contrived to drop the thing uncomfortably near Vandenberg's toe.

The attack came just as Gregson, who had been helping with the ferrying of parts himself, was about to commence the work of dismantling the useless units. There were several sharp reports followed by whining sounds as projectiles ricocheted off the tough metal of the ship's hull.

"There they are!" shouted Vandenberg. He pointed to a clump of trees about a hundred and fifty yards away, on the outskirts of which were half a dozen lightly clad figures carrying long, sticklike objects.

"Class IX civilisation, primitive solid projectile firearms," Lang said.

Gregson lowered himself cautiously to the ground. "Primitive, but lethal. So much for the scout's 'little riddle.'" He peered at the approaching figures. "Broom is still in the ship. I hope he has the sense to stop there. The rest of us had better get back inside too. We'll take it one by one, at the double, all right? That way we'll make smaller and less easily hit targets." He nodded to the tall Psyche. "You go first, then Lang. After that Maxwell, and I'll make the trip last."

Vandenberg cocked an ear as another fusillade of bullets whined over their heads. "Thanks for the priority, Gregson. I always wanted to be a guinea pig."

"Maybe you'd like to stop here and talk it over with *them*?" snapped Gregson. "Now get going—and keep your head down, unless you fancy it with a bit of ventilation."

Vandenberg took a deep breath, poised for a split second, then broke cover and disappeared round the edge of the tail assembly which protected the group. His appearance in the open was greeted by a new burst of firing, but a few seconds later they heard his footsteps clatter back up the ramp to safety.

"We really ought to have had our Kretz packs," rumbled Lang sourly.

"Get moving!" Gregson barked.

The heavily built semanticist hurled himself forward and lumbered out of sight at a top speed which was considerably below that of Vandenberg. Gregson waited tensely for the sound of his feet going up the ramp. If Lang could get through all right it meant that Maxwell stood a fairly good chance.

"This reminds me of a relay race." Maxwell's round face grinned reminiscently. "I used to be rather fond of athletics when I was a boy."

Sometimes Gregson wondered whether Maxwell was just plain feeble-minded; hadn't the man got the sense to be respectably windy in a situation like this? Stiff upper lips were all very well, but at times Maxwell's attitude bordered on the ridiculous.

Gregson grunted, listening intently for the sound of Lang going up the ramp. It seemed a very long time, and the aliens were firing continuously. He was tempted to go out and look, but that would mean leaving Maxwell alone, and he did not want to do that in such a situation.

Then at last he heard Lang's footsteps on the metal of the ramp. "Right, here's your chance to get back into your old racing form," he said, forcing a rather hollow gaiety into his voice to match the attitude of Maxwell.

"Oh, I was never really much good, you know," said the little man. "I just liked the fun of running . . ."

Gregson was not listening; it had just occurred to him that by now the aliens had probably got the range pretty well, and were just waiting for another Earthman to appear. Maxwell's rotund figure would make a good target.

He placed a restraining hand on the arm of the other. "Are you sure you can make it? If you like I'll go. I could come back and bring you a Kretz screen generator. Perhaps that would be best, eh?"

Maxwell pulled his arm away. "Certainly not! The others took their chance, why shouldn't I? I must remind you of my request to be treated as an ordinary member of the party, Commander. I expect no special treatment, and there is absolutely no reason why I should be accorded any."

Gregson shrugged. "Very well—get going then," he said with a casualness which he did not feel.

"Wish me luck!" Maxwell propelled himself forward with something between a waddle and an energetic trot.

Again Gregson waited for the sound of the telltale footsteps, fuming inwardly. Valuable time would be wasted whilst the specialists went through their respective routines and talked the Vadilins out of their aggressive attitude. He wondered what had actually happened when the scout had landed. That had been a number of years before, of course, but an UNCO-OPERATIVE rating seemed pretty mild if his reception had been anything like this. On the other hand, to a man protected by a force screen the spectacle of a bunch of primitives using very crude firearms did not constitute anything that would be regarded as a serious menace.

Gregson's ruminations stopped with a jerk as he realised that he had not yet heard Maxwell going up the ramp. He raised himself to his feet with a curse. The firing was still going on with unabated enthusiasm. What the devil was Maxwell up to? Perhaps *he* had not taken the primitive weapons seriously enough, after all, a lump of lead could

kill a man just as effectively as the more esoteric modern weapons which he was used to handling.

His head crouched between his shoulders, Gregson dived out of his hiding place and raced across the grass. The aliens were moving slowly forward, keeping very close to the ground as if expecting some burst of return fire from the space ship. It was fortunate that they had not yet realised that they had nothing to fear in this respect.

Maxwell was lying at the foot of the ramp, face downwards. Gregson's stomach lurched and he quickened his pace. He felt the wind as a well aimed shot passed over his shoulder and slammed against the hull.

When Gregson was within a few feet of him, Maxwell began to struggle to his feet. The commander breathed a sigh of relief, and shouted: "Hurry man!" Maxwell's movements were so painfully slow, and the aliens, egged on by the sight of *two* targets had increased their rate of fire.

As Gregson came abreast of Maxwell he grabbed the man by the arm and half dragged him up the ramp towards the safety of the lock's interior. To Gregson it seemed several hours later when they tumbled breathlessly inside. He turned to his companion.

"What happened—were you hit?"

Maxwell essayed a sheepish grin and rubbed his hand through his pale, fuzzy hair. "Well, no . . . As a matter of fact I tripped. I fear my athletic days are far behind me. I'm rather out of condition and I was completely winded."

"Well, let's get inside." Gregson turned away and opened the inner door, stifling the things he really felt like saying in the face of such helpless incompetence.

The rest of the team were waiting in the control room of the ship where they could watch the approach of the Vadilins on the view screens. The number of aliens was growing minute by minute as more of them appeared from the clump of trees which obscured the ship's view of the village.

"Give me that good old Vadilin hospitality," murmured Vandenberg. He turned to Gregson with a smirk. "Well, *what now, Commander?*"

Gregson cursed the regulations that left him without any weapons to protect his ship for the hundredth time since the beginning of the attack. "This is where you specialists earn your keep, it seems. You'd better go out there and start using your personal charm on these savages, so that we can carry on with the repairs."

"We'll be pleased to help you out, Commander—won't we, gentlemen?" said Vandenberg sardonically, turning to Lang and Broom. "I suggest that we take the runabout, it's well enough armoured to stand up to their small arms and we can do most of our basic work from inside it; outside we would need to use Kretz screens most of the time unless we wanted to get ourselves perforated . . . or is that the idea, Commander?"

"Right, I'll go along and get my equipment ready," Lang said, heading for his cabin.

Maxwell tugged at Gregson's sleeve. "Excuse me, Commander, one thing is not quite clear. I would have thought that it was even more important to have the ship in good order now that we are sure that the aliens are hostile. Surely the personal force screens would provide sufficient protection whilst we completed the necessary repairs?"

Gregson spoke slowly, keeping his voice under control with an effort. Not only had he been forced by circumstances beyond his control to back down on a plan of action, but Maxwell must start trying to point out his mistakes! "Before we are able to replace the useless parts they will have to be cut away. That means using a nucleonic torch, which generates one hell of a lot of heat and radiation. And *no* radiation will pass either way through a Kretz field."

"Oh, I see, you mean that . . ." Maxwell's voice trailed away and he assumed an apologetic expression.

"Exactly—the operator would be burned to a crisp inside thirty seconds." Gregson turned away hurriedly and walked along to Lang's cabin before Maxwell could voice the question he was expecting to hear.

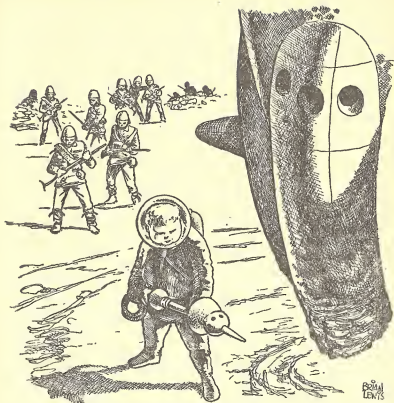
The stubby man looked up from a pile of equipment as Gregson entered. "Now what? Don't tell me there's been another change of plan."

"No," Gregson said. "I just wanted to make sure that you could manage all your stuff. Perhaps I can give you a hand?"

Lang eyed the spaceman with amused suspicion. "Now what are you up to, you old fox?"

"Oh, nothing," Gregson said airily. He picked up two bulky semantic translators. "Just thought I might give you a hand. You'll be wanting these, I take it?"

The runabout was already standing in front of the main lock with Vandenberg at the wheel, when Lang and Gregson arrived loaded with recorders, translators and all the paraphernalia of the semanticist's profession.



"Holy cow!" exclaimed Vandenberg. "Where do you think you're going with all that gear?"

"I'm sorry, Van, but the scout report on the Vadilins was so vague—if you remember, it didn't even give a rough language classification, so I don't know what I'm up against. Gregson says that time is all important in this operation, so I brought along several different types of translator. After all, it's better than running back to the ship every time I want something, isn't it?"

Broom and Maxwell appeared along the corridor. The little man made straight for the commander. "I say, Mr. Broom has been giving me some most interesting speculations on the culture of the

Vadilins. Do you think I might be permitted to go along with the specialists in the runabout—purely as an observer, you understand?”

This was the request Gregson had been expecting. He suppressed a grin of satisfaction at another hazard successfully avoided and pointed to the runabout.

“I’m sorry. But you can see how it is; there isn’t an inch to spare.” Lang and Broom were clambering aboard, hampered by the bulky Kretz packs and distributing the load of equipment carefully in order to find themselves room to sit down. “Perhaps you and I could go out together on the next trip, eh?”

He addressed Vandenberg: “Right, I don’t want you to waste any time on fancy stuff. Just get them to stop shooting, so that we can fix the ship; there’ll be plenty of time later on for you to study their quaint marriage customs, or whatever your specialities are. O.K.?”

Vandenberg threw him an intentionally sloppy salute and clamped down the toughened glass dome on the runabout. Gregson made sure that Maxwell was well out of the line of fire and opened the main lock. The runabout pattered into life and rolled down the ramp.

“We might as well go and take a look at what’s happening through the control room screen,” Gregson said as he closed the lock.

The Vadilins scattered in the wake of the advancing vehicle, dropping themselves flat to the ground as they fired at it. Vandenberg evidently believed that he would be able to make a better study of the Vadilin mind in its natural habitat was heading for the village. In a couple of minutes the runabout was out of sight behind the trees and the warriors turned their attention back to the ship. They advanced cautiously, their weapons at the trail, looking for further human targets.

Maxwell peered excitedly as one of them passed close to the exterior camera and his enlarged image was projected on the control screen. “I say! What a magnificent race of savages they are.”

Gregson grunted and lit a cigarette. He had seen a score of alien races, and Maxwell’s untarnished sense of wonder was beginning to bore him.

Maxwell turned his round, shining eyes on the spaceman. “Look, Commander, is there any reason why I shouldn’t put on one of those force screen things and go outside? They couldn’t hurt me then, could they? I’m sure there will be so much work for us on planets like this one. My superiors will be delighted when I submit my report.”

Gregson breathed twin jets of smoke out of his nose with considerable vigour. “Look, forgive me for saying this, but the initial contacting of alien races is a job for experienced men. In my book they

couldn't hurt me' comes about two sentences before 'ashes to ashes.' Furthermore, I am responsible for your safety, and if you had an accident through any cause it would probably cost me five years seniority."

The commander wondered if he had gone too far, but after his initial grimace of disappointment Maxwell recovered his friendly attitude swiftly. "I'm sorry I asked, Commander ; it was thoroughly selfish of me. I would not dream of jeopardising your career."

Gregson regarded him sharply. From anyone else such a remark might have been sarcastic, but Maxwell was different ; there was no malice, but it was disconcertingly obvious that he did not take Gregson, or the menace of the Vadilins very seriously.

The little man seemed totally absorbed in the spectacle of the Vadilins sniffing around outside of the ship, but for Gregson the continued inaction was torture. He stood up, wondering for a moment if it would be safe to leave Maxwell here alone. How did he know that as soon as he was safely out of the way the other would not grab a Kretz pack and bolt out of the main lock to play explorers, as he was obviously itching to do ?

He decided that he would have to take that chance. After all, if you couldn't trust Maxwell, who could you trust ? he mused.

"I'm just going to have a look around the engine room for a minute." Gregson pointed to the clearly labelled intercom control. "If you want me for anything, just press this and speak."

Maxwell nodded absently, not even tearing his eyes from the screen. The Vadilins were in the process of building themselves a number of barricades surrounding the ship, obviously making preparations for a long siege.

Gregson was a plain man with a head for facts and things he could see, but there were times when he got a sort of tingling at the back of his skull in what he had come to think of as his hunch centre. As soon as he closed the door of the engine room behind him it was at work there, nudging him. Something was not quite as it should be, and he had to find out what it was.

The task took him precisely seventy seconds. He slammed off the manual control on the starboard fuel tank and cursed his rotten luck. The automatic cutout had failed to function when the tubes had blown out and fuel had been spewing away into space unknown to him throughout the entire descent. The closing of the control now was a mere gesture ; the tank was empty.

He walked over swiftly and inspected the other tank. Interstellar distances were covered in Hyper-Drive, but any manoeuvring within

the gravitational field of a planet, such as landing or blasting off required the use of the old fashioned liquid-fuel reaction drive. The tragically sudden appearance of a shower of asteroids in what had been the orbit of Centaurus II had settled any doubts the mathematicians had on that score, soon after the introduction of Hyper-Drive.

A swift calculation showed Gregson that there was enough fuel in this one tank to enable them to make a safe getaway from Vadin. *If the blastoff was within twenty four hours!* Any longer and the natural wastage of the volatile fuel liquids would make it impossible for them to reach a safe orbit before switching to Hyper-Drive.

Gregson doubted if he would sleep very well with the murder of an entire planet on his conscience. He closed the door behind him and walked grimly back to control.

"What a warlike people this race must be! The culture of Earth will be able to give them a great deal."

Gregson jerked back out of the depths of his sombre thoughts. Momentarily, he had forgotten the existence of Maxwell.

"Huh? Oh yes, of course." He looked down at the placid face of the little man, and for a moment he had an urge to explain the whole situation to him . . . perhaps even to ask his advice. He shrugged the idea aside as ridiculous, feeling a contempt for the instinct within him that sought relief from its own responsibilities through such a rationalisation. *He* was the commander of the team, the decision must be his alone. There was still a chance that the specialists would manage to make contact and arrange some sort of peace. Despite his natural antagonism for Vandenberg it was a comfort on this occasion to reflect that the man knew his job.

There was nothing to do but wait. Gregson found that the eager presence of Maxwell, even when he was silent, was an irritant he found difficult to bear. He clenched his nails into his palms, telling himself that it was merely the tension within him seeking a natural outlet in aggressive action.

He went into his own cabin and started to talk into the ship's log, hoping that by placing the thing on tape he would find some solution to his problems. Finally he tired of this and merely paced up and down in the confined space, lighting one cigarette from the butt of another.

Several hours later the door of the cabin opened to admit the round, eager form of Maxwell.

"They're coming back!" His voice was squeaky with excitement. "The runabout just passed the trees and is heading this way."

"Thanks," said Gregson gruffly. He walked swiftly back into the control room behind Maxwell.

The Vadilins had opened fire on the runabout as soon as it came in sight; the clearly visible men under the dome of the vehicle offered a tempting target. Delaying until the last possible moment unless some enterprising alien should have the idea of sneaking up the ramp, Gregson pressed the opening switch of the main lock. But the Vadilins were still sufficiently in awe of the puttering little vehicle not to venture in its path. It made its way up the ramp unmolested apart from a hail of ineffectual bullets. As soon as it was inside Gregson closed the lock and Vandenberg swung back the dome.

"Well?" barked Gregson, unable to restrain himself, as the specialist began to clamber out.

Vandenberg's darkly handsome face was serious. "It's not going to be easy. These people have a warrior mentality, a genuinely psychotic culture maintained by centuries of tradition; and as soon as we came along they had the best reason in the universe to fight us—the fact that we represent the unknown."

Gregson turned to Lang. "What about the language?"

"Not much difficulty there, I suspect," said the stubby man. "Seems to be a derivation of humanoid type six." He patted the tape recorder he was holding. "Give me a couple of hours with my analyser and I think I can crack it."

"If you ask me, it will be a long job," said Broom, ruefully. "As Van says, they have all the earmarks of a warrior race; and a race like that often prefers to suffer extermination rather than co-operate with another civilisation."

"We can't afford for it to be a long job," said Gregson tensely. "How long will it take you to get the language problem solved?"

Lang's round face was resentful. "I can't be sure about that until I've done some analysis. This sort of job isn't exactly a piece of cake, you know."

"In any case, language is only one of the difficulties," put in Vandenberg. "Even when Lang has sorted it out, we've still got to find a way of making them listen to us. It's not as if we can go amongst them and talk to them in the normal manner. You can't talk through a Kretz screen, and at the moment they are so aggressive that as soon as you lowered your screen you wouldn't be able to talk anyway, because you would be dead."

He stopped and looked at Gregson narrowly. "Anyway, what the devil do you mean by trying to tell us how to do our jobs? Your function is to get us here, and to take us away again when we're finished—in between that we're on our own!"

Gregson's face was pale. "I'm not trying to be funny, Vandenberg. But if you geniuses can't come to some sort of terms with the Vadilins within the next few hours you'll have the rest of your lives to do it in, because we shall never get away from this planet."

He explained about the newly discovered fuel leak, and the problem it posed.

"Such a situation would never have arisen if you had been on top of your job," Vandenberg said angrily. "It was your duty to check all that sort of thing as soon as we landed."

"It was already too late then." Gregson strove to keep his voice under control—there was no sense in squabbling at a time like this, he reminded himself.

"And you expect us to get you out of the hole in which your incompetence has landed all of us!" said Vandenberg. "We're dealing with an alien civilisation here, a stable culture which has built up over thousands of years, and you expect results in a few hours. It's impossible!"

Gregson swallowed his pride and appealed to the other specialists. "What about you people—have you any sensible ideas? Whether or not the failure of the ship is my fault is not the point. If it will make you feel any better you are all at liberty to place your own versions of the affair in the log; then if and when we get back to base, a court of inquiry can sort out the whole thing."

Broom patted the side of the runabout thoughtfully. "Vandenberg is right. I don't think it is possible to make any reasonable sort of contact with the Vadilins within a short time. It might even be a matter of years; something like Tanil V, where true contact was only established after detailed study of the culture by agents disguised as natives of the planet."

Gregson gritted his teeth at the pedantry of the academic mind. "But I don't want 'true contact'—whatever that may be. All we need is enough basic Vadilin for one of us to go out there in the runabout and convince them that it will be for their own good if they keep off the grass whilst we get the ship repaired and blast off."

Vandenberg shook his head. "Just like that, eh? Gregson. Sometimes your ignorance appals me. Don't you understand? They *won't* listen to us. All they want to do is kill us, and the very fact of our seeming impregnability coupled with our lack of—to them—logically belligerent response, only serves to increase their desire to do so. I suppose you intend to start out by explaining the principle of Hyper-Drive in words they can understand? Even one of Lang's gadgets won't help you much in getting over a concept like that."

"Very well," said Gregson slowly. "All I can ask is that you do your best, all three of you—but get me some results within twenty-four hours. If not, I shall be forced to use an old-fashioned method that might not meet with your delicate approval."

"What do you mean?" asked Lang.

Gregson nodded towards a nucleonic torch that hung in a clamp on the wall. "With a certain amount of modification those things make a fairly effective short range weapon—effective enough to match the guns of the Vadilins, at any rate."

Maxwell pushed forward, his face was agitated as he thrust it towards Gregson. "I beg you to reconsider, Commander. That would be murder!"

Gregson did not need the reminder; already he was far from happy about the possibility. The effect of the nucleonic torch on the half-naked bodies of the Vadilins would not be a pretty sight, but this was no time for squeamishness. He ignored Maxwell with an effort and spoke to the others.

"Our friend here may be right, but for me I'm afraid his attitude is a bit too idealistic. I'm sure that none of you want to spend the rest of your lives on Vadilin. So remember that the decision, whatever it is, must be made soon. It's all very well to be pious about this sort of thing, but this is a clear case of them or us. Added to that is the obvious fact that it would be better to kill a few Vadilins and keep them out of the way whilst we finish the repairs, than wait until the fuel level is too low and drop into hyper-drive too close to the planet. That, as you know, would kill the lot of them and probably us as well.

"It's up to the rest of you. I've given you my idea of a solution to the problem. If anybody can come up with something better within the next twelve hours or so I'll be pleased to listen to him. In the meantime I'm going to put on a Kretz pack and go out and take a look at the Vadilins."

The specialists began to move away, but Maxwell still stood there, an anxious expression on his face.

"You don't intend to use violence yet, do you?"

"Oh, for Pete's sake!" growled Gregson wearily. "What do you think *they've* been doing ever since we landed, playing patty cake?"

The round face of the little man was sad as he replied softly: "That is not the point, Commander; it never was. But I fear that many of us are blind until it is too late."

Gregson eyed him for a moment, then with a shrug he turned and opened the supply cabinet which held the Kretz screen generator packs. He was prepared to launch the counter-attack himself, he felt

that it was his responsibility. As the commander, it was his duty to expose himself to whatever risk there might be. The torch would make a good weapon, but whilst using it he would have to forfeit the protection of a Kretz screen, and he suspected that the weapons of the Vadilins, if not as efficient in other ways, had a greater range than his own.

He pressed the opening switch of the main lock. "Would you mind closing it behind me?" he asked Maxwell.

The little man's face was solemn as he watched the ramp drop to the ground. "Of course, Commander—anything I can do to help. Please forgive me if I seem to interfere but it is only out of a desire to be of assistance, I assure you."

Gregson smiled briefly. There was something so earnest and unworldly about the little man at times that he found it difficult to bear him malice. "I'm sure it is. Don't worry, everything will come out all right. This has been a pretty rough first trip for you, hasn't it?"

Maxwell looked out placidly over the green, sunlit planet. "I'm glad to be here," he said.

Gregson realised that the other really meant what he was saying; that he did in fact *always* mean what he said. The thought had implications which he could not allow himself to explore at the present moment. He activated his force-screen and walked down the ramp.

The Vadilins were well established behind their circle of barricades, and every few seconds Gregson's screen brightened as it soundlessly absorbed the kinetic energy of one of their bullets. He looked uneasily towards the ship. The lock was moving back into place. Kretz generators never failed—but there was always a chance. Shut inside the transparent cocoon of force the only sound he could hear was that of his own breathing, shallow and tense.

The Vadilins retreated to fresh positions as he moved slowly round the rough circle; but he was able to see enough of them to gain a fairly accurate estimate of their numbers. The Kretz packs were intended for short period protection with a minimum of mobility, and by the time he had completed his reconnaissance the weight of the generator was slowing his pace.

He saw that the main lock of the ship was opening again. Half a dozen of the Vadilins broke cover and headed towards it. Recognizing that Gregson offered no immediate menace they were intent on carrying their attack into the ship. They were firing as they ran and Gregson hoped that whoever was opening the door was keeping well out of the line of fire.

The lock door reached its ramp position and the Vadilins flattened onto their bellies, awaiting developments. Gregson started forward, wondering who had opened the lock—and why. It would not be long before the Vadilins decided that the lack of opposition justified a charge into the interior.

A figure appeared at the top of the ramp, carrying one of Lang's portable semantic translators and wearing a suit of protective clothing. He stood there for a full thirty seconds as if gathering his nerve, then removed his helmet.

It was Maxwell. The round face was pale, but determined, with an expression of strength which Gregson had never before seen on it. He had the sensation that he was watching a silent film as the man started to talk into the microphone of the translator, but dared not lower his screen.

Miraculously, all the Vadilins seemed to be listening, but Gregson suspected that they were only holding their fire temporarily, curious at this sudden change of tactics on the part of the occupants of the ship. The fact that Maxwell was using a portable translator and getting through to the Vadilins meant that he was not under the protection of a Kretz screen. But he *was* getting through, and he seemed to be holding their attention. The question was, for how long? Gregson lumbered forward, hoping to get between the Vadilins and Maxwell before they decided that they had had enough talk.

But he was too late. One of the aliens, a tall, angry-faced savage, raised his weapon to his shoulder and fired. Maxwell staggered and reeled back out of sight.

Almost at the bottom of the ramp, Gregson turned on the Vadilins and shouted curses which reverberated futilely inside the screen. Maxwell had been a fool to try such a thing, but the Vadilins were cold-blooded devils to shoot him down in such a manner. Gregson would have cheerfully massacred the lot of them at that moment, if he had been possessed of a weapon.

It took him several seconds to realise that as far as the Vadilins were concerned, he himself might not have existed. They were not firing now, in fact there had been no shot since the one which had injured or killed Maxwell. Standing upright, totally unmindful of cover, their attention was fixed on a point several feet above his head.

Gregson turned. Maxwell had reappeared and was making his way unsteadily down the ramp. There was a growing patch of red on the light-coloured trouser leg of his protective suit. It was protective against heat and radioactivity, but not against bullets. The little man was obviously in great pain from his wound and his face was greenish

under the film of oily perspiration. He had discarded the portable translator and was carrying a nucleonic torch.

Seeing the way the man winced with pain each time his foot touched the deck, Gregson started forward to help him. Maxwell motioned him away with a definite shake of his head and the commander stood back automatically, incredulous at the change in the inoffensive little man. It was possible to rush forward and force him back up the ramp to safety, but that would mean dropping his screen. Caution made him wait, tingling with tension, for the shot that would slam Maxwell to the ground. He wondered if the admiral would accept the complete insanity of his charge as sufficient excuse for failing in his role of protector. Nobody but a madman would take such a risk as this.

But this was no ordinary madness. As Maxwell passed close by him, Gregson saw such a dedicated strength in his face that he felt he did not have the *right* to interfere. The man continued his maimed, crablike progress unmolested. When he reached the stern jets he replaced his protective helmet and waved to the Vadilins, who retreated to a respectful distance. A moment later the nucleonic torch burst into life and Maxwell commenced the work of cutting away the fused tubes.

Gregson could find no sensible explanation for what he had seen, but he had no intention of interfering with work that might save the whole team. He walked quickly back up the ramp and into the ship.

He was unhitching his Kretz pack when Lang appeared.

"What the devil happened?" Gregson barked. "How did you come to let that crazy fool go out there like that? He might have been killed."

"We didn't know . . ."

"That's nonsense! *You* must have let him take that portable translator and shown him how to operate it."

The stocky semanticist's face coloured. "I *did* explain to him how to work the thing—I thought he was just curious. You know the way he was always asking questions; and you told us to co-operate with him—remember?"

Gregson seethed at the reminder. "Where's Vandenberg?"

"I left him in the control room with Broom."

The Psyche was sitting in front of the view screen, watching Maxwell, unharmed except for the ugly growing stain on his leg, still working away with the torch. Around the little man, at a respectful distance, stood the Vadilins. Their weapons trailed loosely in their hands as if forgotten.

"I knew you'd do practically anything to get at me, but I didn't think you would stoop so low as to risk a man's life," stormed Gregson. "Don't you realise that Maxwell . . ." He stopped as Vandenberg turned and looked at him. There was something new in the face of the Psyche. He seemed deflated, almost humble.

"We owe our lives to that little man out there, Greg," Vandenberg said softly. "All we could do was quarrel and talk our heads off about the situation, but *he* saw what had to be done and went out and did it."

"Just *what* did he do? And why was he the one to do it?" demanded Gregson. "It didn't make much sense without a sound track."

"Because he was the only one of us with something more than a theory," Broom said hoarsely. "I suppose the best word for it is faith, faith in a certain way of doing things. He had been listening to us talking about the Vadilins and searching for some common basis upon which to approach them. He must have assumed that we were not getting anywhere, and decided to tackle the problem in his own way. He was wrong as it happened. We did finally reach a solution—the only difficulty was to find a person suited to carry it out."

"What was it?" Gregson asked.

"An elementary conclusion really," continued Broom. "Think of the warrior races back on Earth—what was the thing they respected most? Beauty? Truth? What did they tell about in their sagas, portray in their dances and sing about in their songs?"

Gregson was beginning to understand at last. "You mean they would respect . . . *a hero*?"

Broom nodded. "Exactly."

"But why Maxwell? How did he do it? What did he say to them out there?"

It was Vandenberg who replied. "I've told you, Greg—we didn't send him out there. He didn't even know about our conclusions, he just went out there and tackled the thing in his own way without consulting us."

"But *what* did he say to them?"

The Psyche shrugged. "I should imagine it was something along the lines of: 'I offer myself entirely unprotected in the face of your weapons. If you wish, you may kill me—but whatever you do I shall never attempt to hit back at you.' Does *that* give you an idea of what his way was?"

"*The soft answer that turneth away wrath*," murmured Gregson.

"You've got it," Vandenberg said. "He was putting into practice the principles in which he believes—it's as simple as that. It was totally inconceivable to him that the Vadilins, alien as they may be,

might have no appreciation of those principles—as inconceivable to him as the idea of regarding himself as a hero would be.”

The three men regarded the image of the Reverend John Maxwell in the view screen. The movements of the little priest were slower now, hampered by fatigue and the pain of his wound ; but he was steadily completing the repairs which would enable the contact team to leave Vadin in safety.

“Perhaps those principles are more universal than some of us had given them credit for,” Gregson said quietly. “His was the way of looking at the situation which produced results, at any rate. So let’s just leave it that way in the reports, eh?”

Dan Morgan

THE LITERARY LINE-UP

Probably next month’s most outstanding news is that we have a new (unpublished in Britain) Arthur Clarke story—the first since March 1954—by coincidence one of the best he has ever written, but it will probably be overshadowed by the two long novelettes, “And Earthly Power” by Lan Wright, and “Patrol” by James White, who now returns to shorter lengths after exhausting himself writing our recent serial.

In shorter lengths J. G. Ballard will rate a high score with “Build-Up,” Alan Guthrie maintains the good standard he has recently reached and we will also present the first story by a new woman writer to our ranks, Nita Polinda. There will also be an astronomical article by Donald Malcolm.

Story ratings for No. 51 were :

1.	Report On Earth	-	-	-	-	-	J. T. McIntosh
2.	Conviction	-	-	-	-	-	Brian W. Aldiss
3.	Dwellers In Silence	-	-	-	-	-	N. K. Hemming
4.	Time Will Tell	-	-	-	-	-	Lan Wright
5.	Creep	-	-	-	-	-	E. R. James
6.	Mutation	-	-	-	-	-	Sydney J. Bounds

TOURIST

Dr. Lockhart aboard the Shekkaldor bound for Harla to plead for Earth's survival is now faced with a grave surgical problem—to try and save the 'life' of one of the fabulous hyper-dimensional Grosni. A far cry from the ordinary calling of his profession back on the planet where galactic tourists abound.

PLANET

By James White

Illustrated by QUINN

Conclusion

FOREWORD

Following a quiet period of political friendship between the nations of the world, tension begins to build towards a threat of war and Secret Service departments are kept busy investigating various problems that could lead to the final atomic blow-up.

In Paris, Hedley, a prominent British agent, conscripts Dr. Lockhart, a practising physician and war-time friend, into assisting him to watch an old man sitting in a cafe on the Boulevard Saint-Michel. Records have shown that scores of elderly men in various cities have suddenly committed suicide by poisoning and that no trace of the origin of these "dying grandfathers" had ever been found. It was thought that they might be agents of a certain power conditioned in some manner to spread virulent diseases at the time of their deaths.

Lockhart and Hedley see a man accompanied by an attractive girl speak to the old man in the cafe who shortly afterwards collapses and dies, despite Lockhart's efforts to save him. Carson, another of Hedley's men, traces the mysterious couple to a Paris hotel where they are registered as "Mr. and Miss Kelly," but they have already left for Belfast in Northern Ireland.

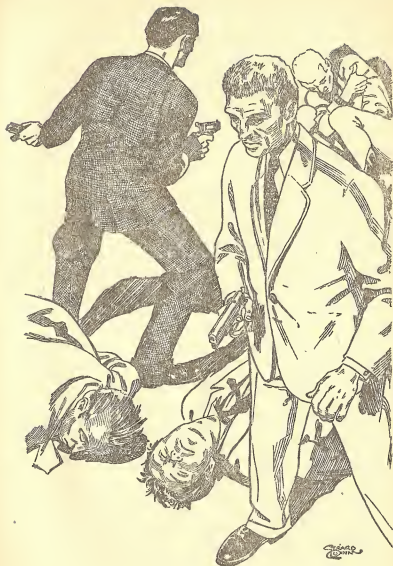
Lockhart, together with Hedley and his team of agents, follow by plane and while checking with the tourist agency which issued the Kelly's tickets to Paris the doctor sees Miss Kelly and upon impulse accosts her but is unexpectedly attacked by the man who is apparently her brother. As Hedley's men move in on the struggling trio the Kellys make their escape. The trail then moves to Portballintræ where Hedley finds that an FBI official from Washington has been assigned to his team, who is posing as a tourist with his wife and son. Lockhart suddenly sees Cedric Kelly entering a nearby room in the "Bay Hotel" where they are all staying and bursts in on him, knocking the man unconscious. When Cedric recovers he tells them a fascinating story.

Civilisation is spread throughout the Galaxy on more than two hundred planets but on none of them is there such scenery, sunsets or music comparable to that of Earth. The discovery of Earth as an interstellar paradise has been kept a secret by the Galactic agency who found it and a lucrative Black Market trade developed in conveying wealthy Galactic citizens to the planet as a place to retire. It was a one-way trip, however, as inhabitants of the Galactic Federation were not allowed to leave Earth once they had reached it. The "dying grandfathers" were these "tourists," indoctrinated to commit suicide as death approached rather than reveal to humans that there were other intelligent beings in the Galaxy. The Federation ruling the inhabited worlds had perfected a longevity treatment for their citizens, requiring an injection every twenty years or so—this elixir was also denied the resident "tourists."

To prevent Earth reaching outer space the Agency was deliberately fermenting war between the nations of Earth and already had Earth-humans in important governmental positions who had been offered the secret of longevity as bait. At the same time they were deliberately undermining the power of the Galactic Federation with the intention of eventually taking control of all the inhabited planets.

Lockhart, who becomes friendly with Miss Kelly, discovers that she is actually a Federation agent sent to take back all this information to the central world of Harla. She suggests that Lockhart and Hedley assist her by recording all they know about the Agency plot, as well as complete details about their own culture on Earth, into a special machine fitted into a Federation spaceship which will shortly be landing. This they agree to do but when the ship lands Keeler's ex-quiz kid son confuses some of the spaceship guards and in the ensuing panic one of the guards is wounded.

The Kellys and the Earth people including Keeler's wife and son are then hustled on board the Harlan ship and Lockhart attends to the wound of the injured man. He is held in considerable awe by the Harlan medical



officer who explains that their civilisation needs little or no knowledge of medicine or surgery as the longevity treatment precludes illness. People who meet with accidents however were usually killed as they had a horror of pain. The fact that Lockhart's skill enabled him to save the man's life enhanced Earth's chances of being well-received by the Federation. As a gift the Harlan injects Lockhart with the longevity serum.

Meanwhile, the spaceship has taken off to rendezvous with a parent ship and before long the eight Earth-humans find that they are being taken to the central world of Harla to record their information personally before the Federation Council. On the journey the ship touches down on the planet Retlone where the Captain informs them a dying Grosni is located—and asks Lockhart to try and cure it. When Lockhart discovered what a Grosni really is he nearly collapses.

XV.

At a distance the *Grosni* ship had not been an aesthetically pleasing object, and close up it was ugly to the point of obscenity. Leprous patches of rust grew on its hull, which was scarred and pitted so deeply that in places it looked like the bark of a tree rather than metal plating. A row of dark, slot-like openings encircled the hull about eighty feet from the ground, from which sprouted a fringe of thin, ropy tentacles like limp spaghetti. Most of these lay motionless across the supply containers spilled around the ship's base, but some of them . . . twitched.

"I cannot understand it landing to die," Naydrad said. "They are usually more . . . considerate."

Cedric said, "Please hurry."

The tone, Lockhart noted curiously, was exactly that used to the doctor when a close relative is very ill—worried, and almost pleading. As he followed Cedric up the telescopic ladder—used once and abandoned in haste by a Retlonian port official—Lockhart wondered again what that previous contact with the *Grosni* had done to Cedric's mind to make him feel like that about them. The thought of something similar being done to his own mind made him shudder. Cedric, however, was the *Grosni* expert of the party, but what knowledge he had was of well *Grosni*, not sick ones.

Hedley had said, "Think of it as an ordinary patient, Doctor. It's big, but it seems to be made up pretty much like a Human, and it uses ordinary air and water. Do your best to patch it up enough for it to take off. Kerron won't be able to stall the people here for more than a couple of hours, so be as fast as you can, Doc. There's an awful lot depending on you . . ."

Yes, Lockhart thought, that was the trouble. There was too much pressure on him. Had he been given the chance to study and experiment with an alien life-form—even one as fantastic as the *Grosni*—he would have jumped at it, providing, of course, that he was given time for the study. But to expect him to diagnose, treat and cure an alien being of some probably alien disease, and all within a few hours . . .

He did not need reminding of his responsibilities, Lockhart thought angrily as he pulled himself up the ladder. If he failed to do the well-nigh impossible then the *Shekkaldor* would not reach Harla, the Earth party would not appear before the Galactic Court, and on Earth the Agency would have everything their own way. If anything was lacking in this, Lockhart thought bitterly, it certainly was not incentive.

Cedric was several rungs above him on the ladder and Naydrad was following, but Lockhart did not look down. He had no head for heights. Instead he examined the slots from which the tentacles hung as he came level with them. They were deeply recessed and the yellow flaccid ropes went far into them and disappeared in darkness. From the bottom of one of the slots a thick liquid, like oily green porridge, oozed out and dripped slowly to the ground. There was a sharp, unpleasant smell ; he turned his head away.

From up here he had a good view of the three great, needle-peaked mountains overhanging the capital of Retlone which gave it the reputation of being one of the most beautiful places in the Galaxy. The mountains looked volcanic, but their bare slopes were streaked and dappled with vivid patches of brilliant colour. They were beautiful Lockhart admitted, in a garish sort of way.

Naydrad had told him that the effect was due to oxides in the rock, adding cynically that the natives were always improving on nature with the help of paint-sprayers. The tourist trade, it seemed, was the same everywhere. Lockhart felt his eyes sliding away from the mountain to the ground immediately below him, and hastily finished his climb to the entry port.

He went through a small lock into darkness, but Cedric was making the quick, sure noises of a person in unlit but familiar surroundings. Standing there Lockhart felt dull, unlocalised pains start suddenly in his head, chest and throat. They grew steadily more severe. Lockhart's anxiety became outright fear as the pains mounted in intensity. He was on the verge of panic when they stopped suddenly.

He was about to ask Cedric about the experience when the lights came on and he saw the interior of the compartment which they occupied. The sight drove the question out of his mind.

"But this is for *men*," he burst out. "Look at the chairs, the . . . the controls !"

Naydrad came through the lock at that moment. He said, "The Human servicing engineers operate from here." He waved at the storage cabinets ranged around the room, the control panels with chairs facing them, and at the harsh brilliance of the lighting. There were patches of corrosion here, too, but the dirt which covered everything was from age rather than misuse. He explained, "They repair the purely mechanical—and accessible—parts of the ship, on request. They are not asked often as you can see."

Lockhart digested that. He said, "Have the people here checked that the *Grosni* isn't planet-bound for mechanical reasons?"

Naydrad shook his head. "The port official said that it was dying. Nobody approached the ship after that. Besides, it is only on the Central Worlds that such repairs are possible."

"But suppose the trouble is partly mechanical," Lockhart protested. "I'm not an engineer . . ."

From the look on Naydrad's face Lockhart knew that it was no good his trying to shift, or at least divide, the responsibility of getting this ship off Retlone; the guilt or the glory would be all his own. Angrily, he said, "Oh, let's get on with it."

Lockhart examined the chart which Naydrad unrolled. It was large, and certain sections of it were enlarged and finely detailed in red—those parts of the *Grosni* actually inside its ship. But the rest of it made Lockhart think of a map rather than a physiology chart. That was understandable; the scale, for one thing, was approximately three miles to the inch.

The *Grosni* had been, and were, an amoeba-like life-form which continued to eat and grow indefinitely instead of fissioning when a certain size was reached and, as they were extremely long-lived, the true size of their bodies often approached planetary mass. Because of this uncontrollable hunger and growth interstellar travel became necessary for their continued survival, and this in its turn led them to a method of slowing down their fantastic rate of food consumption and growth.

Instead of using the Hyper-drive method of propulsion for their ships they used it to warp their gigantic and cumbersome bodies—with the exception of the brain, one respiratory opening and one feeding mouth with its connected manipulatory organs—into the hyper-dimension where the time-rate, and therefore their metabolism, was slowed almost to a stop. As their brains were not affected by this slow-down, this enabled them to travel in small ships instead of the hundred or more miles in diameter shells which they had been forced to use previously, and their food intake dropped in proportion.

It was a highly artificial and biologically dangerous adaptation, because the greater part of their bodies existed in the gravity-free hyperdimension thus making atrophication inescapable. And they could not use the hyperdrive method of space-travel. That would have meant bringing their whole bodies together into one continuum, a body thousands, maybe millions of times too big for the ship carrying it. But the use of slow, reaction-driven ships did not worry such a very long-lived race.

Occasionally, Lockhart had been told, a *Grosni* did die. When death occurred the organic and mechanical combination of controls which held its gargantuan body in the hyperdimension broke down, precipitating it into normal space around the dead brain.

That was the explanation for the panic-stricken mob besieging Kerron's ship. The dying *Grosni* was said to be young and relatively small, but the Retlonians wanted to flee the planet before a carcass one hundred miles or more in diameter burst into existence on top of them. Though help in the form of Federation transports was undoubtedly on the way, it might take hours or even days for enough of it to arrive. This might happen in minutes.

Though the disaster would not kill everyone outright, the planet would be rendered uninhabitable forever by that awful mountain of corruption poisoning its atmosphere. Lockhart tried not to think of being buried under such a mountain and concentrated on the chart spread before him.

He said, "These small areas marked in red are the organs which—er—come out into the ship. But where exactly are these segments placed in the ship, particularly the *Grosni* brain?" Looking at Cedric, he went on, "You said that you could communicate with the being. If I could find out what it thinks is wrong with it, that would help a lot. I presume there is none of the *Grosni* in this compartment?"

"That is correct," Cedric said. "But you must understand that there is no difficulty in conversing with it . . ." He began a stammering, confused explanation of why that was so which Lockhart cut off short. Cedric, while speaking Galactic, was understandable so long as he kept off technical or involved subjects. Otherwise he might as well have spoken his own archaic English, which Lockhart could not understand at all.

"If you can talk to each other that's all that matters," Lockhart said quickly.

Cedric gave an angry shrug, muttered to himself, then moved to the centre of the compartment. He began unscrewing the fastenings

of what looked like a manhole cover set flush with the floor. Naydrad and Lockhart went over to lend a hand.

Suddenly there was the rushing whistle of air under pressure and the manhole cover sprang open. Lockhart gagged. It was the same sharp, unpleasant odour which he had met coming up the ladder outside, but here it could have been cut with a knife. Lockhart bent forward to look down.

It was like gazing into a deep, smooth-walled well, but instead of there being water at the bottom of it, a green, oily porridge bubbled softly to itself. A ladder led downwards, and Lockhart could see rung after rung being covered by the green stuff. Air pressure had kept it down, but now that the cover had been removed it was pushing sluggishly upwards. At its present rate of climb it would be oozing into the compartment within twenty minutes.

"What is it?" Lockhart asked.

Cedric shook his head helplessly.

The smell of the stuff suggested something to Lockhart, but he could not think exactly what it was at the moment. He said, "We can't go through *that*. Is there another way?"

"No," Cedric said.

Lockhart took a deep breath, then let it out slowly through his nose. He had seen the green stuff leaking from one of the tentacle slots near the base of the ship. That probably meant that the whole lower part of the vessel was filled with it. He said impatiently, "If I cannot get nearer to my—uh—patient than this, I can do nothing. Is there no means of draining the ship?"

"Yes," said Cedric suddenly. "There is an opening which discharges the ashes from the vessel's motor . . ." He probably meant radioactive waste from the power pile, Lockhart thought. ". . . but it can be opened only from inside the ship."

There was no need for him to add that the controls for it were also submerged in green porridge, but deeply.

Naydrad cleared his throat. "The repair engineers keep vacuum-suits here," he said. "If you were to use one to go down through this green substance . . ."

"Of course," Lockhart burst out. "But I don't know the position of the controls." He looked at Cedric. Lockhart was not at all anxious for the job himself, he just thought it a good idea.

"Cedric is too small for the regulation vacuum-suit," Naydrad demurred. "Bu' he could guide you to them through the suit radio. I," he added, a little too hastily, "will have to stay in touch with the *Shekkaldor*," he patted the communicator which was strapped to his chest.

Lockhart was expected to do his own dirty work.

Ten minutes later he was lowering himself into the green stuff, the cable of his RT set unwinding behind him. When it closed over his head he gripped the ladder in sudden panic—he had not realised that it would be so *dark*. But he forced his hands to release their hold and felt himself sinking. Lockhart had to drop to the bottom of this well, Cedric had told him, then enter another three-foot diameter pipe which led off it at right-angles. The air bubbles which gave the impression that the stuff was boiling pushed upwards along his suit. He began to wonder what the pressure would be like when he reached bottom.

To keep his mind off such unpleasant thoughts he said to Cedric, "Is it possible for you to talk to the *Grosni* from where you are? If you could contact it and—"

"You don't understand," Cedric's voice came impatiently through his 'phones. "There is no difficulty about speaking to it. I have been communicating with it constantly since entering the ship. I tried to explain . . ." He hesitated, then went on worriedly, "but the *Grosni* does not answer. I thought it was about to contact us upon our entry, but it withdrew."

"What the blazes are you talking about?" Lockhart said, then suddenly he got it. *Telepathy*!

Why hadn't Naydrad told him that, Lockhart asked himself angrily. Then he remembered their hasty trip from the *Shekkaldor*, and his own constant stream of questions. Naydrad had been too busy answering him to volunteer information, and probably the Medic had thought that Lockhart had understood what Cedric had tried to tell him about it.

He said urgently, "Can I talk to it? And will it talk to me?"

"This is a dying *Grosni*," Naydrad's voice came warningly. "The Retlonian who visited the ship—"

"You *are* talking to it," Cedric cut in. "But do you want it to talk to you?"

"Of course I want it to talk dammit," Lockhart began irritably. Suddenly he almost cried out in agony.

A white-hot lance of pain stabbed at his brain, and there was a sensation of tightness, of pressure, on it as well, and his lungs were on fire. Lockhart could feel himself breathing rapidly, but still he was choking. With part of his mind he knew that there was nothing wrong with him, and he remembered his peculiarly painful experience just after entering the ship. But his lungs were bursting and he was choking and the pain in his head was getting worse and worse . . .

The *Grosni*, Lockhart realised, was talking to him.

XVI

Stop it!

Maybe he screamed the words, or perhaps he only thought he did, but the result was the same. Lockhart's suffering ended with the abruptness of a light going out.

So that, he thought shakily, was telepathy as practised by the *Grosni*. His feet touched bottom just then and he groped for the lead-off conduit. Entering it he soon found that travelling horizontally through the stuff was a lot harder than simply sinking into it—he felt as though he was swimming endlessly through a river of syrup, upstream. Inside the suit it grew hotter and hotter—it had been designed for use in a vacuum where surplus heat could radiate away, not for diving operations like this. The sweat poured from him, soaking his clothing and trickling into his eyes. He had never been good at the breast stroke. His arms were leaden weights on his shoulders. Lockhart wondered if he was making progress at all.

He became aware of an obstruction. It felt like a tangle of thick rope. With a feeling of revulsion he remembered the tentacles trailing from the outside of the ship. He pushed his way through.

A projection on his suit caught against something in passing. For an instant the pains returned. Lockhart thought, *I'm sorry*. The being was telepathic.

It seemed like hours before he found the hatch control which Cedric had described. Lockhart tugged at it. It moved slightly, then suddenly he was hanging onto it for dear life.

The thick, viscous liquid was in motion along the conduit and trying to pull him along with it. There were sucking, bubbling noises from somewhere, and all at once it was no longer black outside his helmet, but black streaked with green.

"What's happening?" Lockhart called urgently.

Cedric began stammering something about this ship being different from the one which he had known.

"You have made a mistake," Naydrad cut in, "but a fortunate one. The control which you activated has caused all cargo and inspection ports to open. The ship is draining rapidly. But I will have to tell the *Shekkaldor* what is happening. From over there it cannot be a reassuring sight."

"Right," Lockhart said, relieved. "But come down and get me out of this blasted oven as soon as you can."

The flow through the conduit slackened and stopped. Lockhart released his grip on the control lever and wiped at the outside of his visor. He was lying inside a pipe five feet or so in diameter which curved away on both sides so that he could not see either end. A

single tubular light ran along the ceiling, its harsh brilliance softened slightly by the green scum which coated it and everything else in sight. While waiting for the others to reach him Lockhart tried to sort out his impressions of the being who was supposed to be his patient.

The *Grosni* was telepathic : it could receive and understand his thoughts. He had simply thought *Stop it !* and all sensations of pain had stopped, just like that. Telepathy, then, should be the answer to his communications problem at least, but it was not. When the *Grosni* tried to communicate with *him . . .* Lockhart cringed at the memory of it.

It did not seem right that telepathy should be one way. If transmission was possible at all it should be of the complete contents of the transmitting mind, not just a radiation which caused severe pain stimulation in the receiving brain. Cedric's experience with the *Grosni* had been mentally pain-free, and judging from what he had told Lockhart, his conditioning had been aimed only at making his physical surroundings bearable. But the *Grosni* in that instance had not been dying.

Lockhart had the intensely frustrating feeling that the explanation was staring him in the face but that he was too stupid to see it. The green substance which had lately filled the ship was, he felt sure, an important datum . . .

Cedric and Naydrad arrived then, interrupting a train of thought which didn't seem to be going anywhere. When they had peeled off his vacuum suit, he said, "Take me to the brain segment." He had an idea that the *Grosni* telepathy would function more efficiently if he was close to the transmitting mind.

But he was wrong. When he tentatively asked the being to make contact again it was the same as before. He thought *Stop !* and the pains ceased immediately. Then he began to wonder whether they had been exactly the same. The strangling, burning sensation in his throat and lungs seemed to have eased a little, but that might have been his imagination.

The brain-casing was an upright metal ovoid ten feet high, housed in a thick-walled compartment in the very heart of the ship, and was constructed of small sliding plates which allowed for growth in the brain. The visual effect was of an outsize metallic pineapple. Cedric moved one of the six inspection panels aside to reveal a second, transparent, panel. Lockhart saw an expanse of greyish-pink convolutions with purple veining, surprisingly similar to the view of a human brain

during a craniotomy. Lockhart could see nothing obviously wrong with it, but then he did not know how it *should* look.

As he turned away, the pains which meant that the *Grosni* was trying to contact him washed briefly through his body. They were mild, but Lockhart had the idea that they were meant as a gentle reproof, as though the great being was impatient at his failure to see something which should be obvious.

"Take me to the breathing orifice," he said to Cedric. His voice was harsh with self-anger.

Several seconds before they reached the compartment containing the *Grosni's* respiratory opening Lockhart felt a decided tail-wind. Inside he saw that a ten-foot cube of metal occupied most of the space, one of its faces being a fine-mesh grill through which Lockhart could see into a narrow funnel of leathery, wrinkled flesh extending back for a distance of about twenty feet. But, he reminded himself, the cube was only ten feet square. Somewhere inside, the breathing mouth of the *Grosni* took a dive into the hyperdimension. A thick pipe left the cube and disappeared into the floor. Through it, Lockhart's chart told him, went the being's exhaled air for purification and re-use. With its slowed down metabolism the drawing of a single breath could take days or even weeks.

"How does it carry enough air?" Lockhart asked suddenly. There was a small gale blowing into the compartment. "And what happens if dust or water should get in here?"

"It was not like this on the other ship," Cedric said with a baffled expression. "There its breathing was scarcely noticeable . . ."

"This air is coming from outside," Naydrad broke in. "Through the open cargo ports. Why it is using so much of it I can't say. With regard to your second question, if there is danger of a liquid or other foreign substance being introduced into the breathing compartment, the door through which we entered closes automatically. Dust and bacteria are caught by organic filters within the organism."

Lockhart said, "It's dry in here. That means that the door must have been sealed while that green stuff was flooding the ship. How did it breathe then?"

"It didn't."

'It didn't breathe' Lockhart repeated to himself as he turned away. But for how long had the being been unable to breathe? Or rather, how long had the green stuff been flooding the ship? Suddenly Lockhart decided that he knew, in broad outline, what had happened to the *Grosni*, and he knew what he would see two levels below at the being's ingestive system.

The *Grosni* breathed air, used water and its food could be used by a human being provided he was desperate enough. Scarcely surprising then that its metabolism—though greatly slowed down—also paralleled that of the human body. Only the air in the ship was re-used, the water and food wastes being evacuated from the main body in the hyper-dimension and not through the ship. The ship was packed with food and water stores, normally, Lockhart knew, so there was only one place for that greenish, semi-solid substance to come from.

On the way down they had to pass the tentacle which Lockhart had struggled through to reach the hatch control. It had a roughened, fibrous tip—probably for gripping purposes—and further back two shorter, finer tentacles branched from it. These had soft, bulbous tips which had the watery look of eyes, and one was torn open and partially collapsed. Lockhart remembered catching his vacuum-suit against something here: He thought *I'm sorry* a second time.

"This should not be here," Cedric said, pointing to the tangle on the floor and to the opening from which the tentacle emerged. It was a feeding appendage only, he explained, and had no purpose in a part of the ship used only by Human repairmen.

"It was trying to do for itself what we have done for it," Lockhart said. "You can see that its tip is only a few yards short of the hatch control which I activated."

But what had caused it to stop short?

The compartment below was such a bewildering tangle that Lockhart had only a vague idea of its size. The feeding mouth was housed in another of the ten-foot cubes, with three distinct types of appendages sprouting upwards from what on a Human would be its lips. They spread out and most of them disappeared through slots in the walls. Cedric explained that the thick, heavy type protruded through seals in the hull above the cargo holds and were used for loading. The thinner type with multiple eye-clusters near their tips were for manipulating the various controls of the ship, and the type similar to that which they had seen a few minutes ago carried food to the *Grosni* mouth. Before the species had become technically advanced they had all been feeding appendages, but now they were of three specialised types.

The *Grosni* did everything except breathe and think with its mouth!

But Lockhart could not see into it, because a slow flood of the green substance oozed out between the roots of the tentacles encircling it and onto the floor. It looked remarkably like certain types of Human vomit, Lockhart thought, certainly it smelt like it.

It was nice to have one's deductions borne out like this, Lockhart thought, and there was a further test he could make. He said silently,

Come in again, please, then added hastily, *But not too hard!* The *Grosni* came in.

As he had expected, the choking, strangled feeling in his throat and lungs was almost gone. But the ache in his head was still present. Lockhart remembered his earlier anxiety over being unable to diagnose the being's trouble, and smiled wryly to himself. That had never been a problem, because every time the *Grosni* touched his mind its symptoms were impressed on it so that he had felt exactly what the *Grosni* was feeling—or the nearest Human equivalent, that was.

But the one draw-back was that it could not contact Lockhart fully enough to transmit a coherent message to him, because that would have meant concentrating all of its mind on his, making him feel all the pain that it felt, and very likely killing him in the process. Lockhart shook his head. Maybe he could manage without full contact.

Maybe he had effected a cure already.

The way Lockhart saw it, the *Grosni* had suffered an acute digestive upset which had caused violent regurgitation of large quantities of partially digested food. This had filled the ship and, among other things, had cut off its air supply. The *Grosni* had landed the ship, tried to open it up to relieve its rapid strangulation, and had failed. Possibly, Lockhart thought, because the understandably rough landing had damaged something. Supplies had been sent out to it, then a Retlonian official had gone to see why its loading tentacles were not taking them aboard.

Though he had not been aware of it at the time, Lockhart by opening up the ship had enabled it to breathe again. The rate at which air was pouring into its lungs showed that the *Grosni* metabolism could be speeded up despite the different time-rate of the hyper-dimension—probably an equivalent of adrenalin was released into its system in an emergency like this. All that now remained was to wait until the *Grosni* had enough air, then it would recover and begin helping itself. It should be moving a little already.

But it did not move. Even the appendages which had given an occasional twitch were motionless now. Lockhart had the panicky feeling that it was dead and that its monstrous corpse was about to explode over them. Sweating, he unrolled the chart and began to study it again.

From the mouth the *Grosni* oesophagus ran to a sort of muscular pump which forced the food into a number of smaller and narrower channels to its stomach. Each of these channels was, according to the chart, fitted with an organic valve which was supposed to insure the food going one way only, down. The pump and subsidiary valves

would be controlled by involuntary muscles, he thought, not by conscious direction from the brain. What could make them not only relax, but reverse their normal operation?

A disease peculiar to the being might cause such malfunctioning of the organs concerned, and if that were the case Lockhart could do precisely nothing for it. But such a disease would hardly explain the tentacular paralysis. Something of a more general and widespread nature had occurred, and its onset had been sudden . . .

"Take me to the brain again," Lockhart said suddenly.

It was still the same ten-foot, metallic pineapple. At Lockhart's direction Cedric and Naydrad removed the covers of all six transparent inspection windows and he began a close, visual examination of the brain area exposed. He went around the brain-casing twice before he noticed the trace of yellowish matter overlying the greyish-pink convolutions of the organ. Lockhart had mistaken it for grease on one corner of the window. He noticed too that the sliding plates which allowed for the limited growth of the brain were warped slightly in that area, as if from internal pressure.

Lockhart indicated the area with his finger. "I want the brain-casing removed here," he said, trying to keep his voice from shaking. "And bring my bag from the airlock."

Underneath the plating was a thick, transparent membrane, the brain's organic sheath, and beneath that lay plainly revealed a tumor which was not quite as big as a football. It had ruptured, but only a small amount of the yellowish pus had been discharged onto the surrounding brain surface indicating that the growth had a more or less solid core, and it depressed that surface for a radius of two feet all around it. Here the blood-vessels were swollen dangerously.

Tumor, probably malignant, with developing angioma.

When Cedric returned with his instruments Lockhart lost no time. Working through a triangular flap cut in the sheath membrane he first opened the tumor, then began cutting out its contents. He could not risk removing it completely because of his ignorance regarding the placing or importance of blood-vessels or nerve connections in the area. All he could do was trim and pare away at it to relieve the compression on the brain, even though he knew that doing so meant that the growth must eventually return. He syphoned off the yellow discharge, withdrew and neatly sutured the membrane.

Naydrad's face was like putty, and Lockhart saw where he had been sick on the floor. But the *Grosni* had already been sick on such an incredible scale that it struck him as an outrageous anti-climax. He giggled suddenly, then bit his lips to stop it. He was surprised to find that he was trembling all over. A human operation didn't affect him that way.

"As I see it," Lockhart explained as the casing was being replaced, "the *Grosni* has had this growth for a long time. Pressing down on its brain, it caused gradually increasing mental confusion and loss of co-ordination. But the shock of its latest landing must have caused the growth to shift slightly—onto the part of its brain regulating the involuntary muscles of swallowing, and also paralysing the tentacles which surround its mouth. The result was a regurgitive spasm of incredible violence; consider the speed at which its abdominal contents emerged against the slowed-down metabolic rate of the hyper-dimension, and that spasm has not yet passed. The ship was quickly flooded with the stuff and it was strangling, unable to breathe, as well as being paralysed."

"Is . . . is it cured?" Naydrad asked as they left the compartment. His tone was just short of being worshipful.

"We won't know until it begins moving," Lockhart said uncomfortably. He wasn't used to being worshipped. "The distance from the *Grosni* brain to its feeding mouth and connected tentacles is short in the hyper-dimension. The nerve impulses should not take long to reach it. But it is not *cured*. I have only tried to remove the cause of its paralysis. It may be able to take off again, if it wants to."

"It will," Cedric stated. "No *Grosni* would knowingly cause death and destruction on this scale."

They were back at their original point of entry when a shudder went through the ship. There was a crash and the ladder was torn away from the rim of the entry port. Crowding into the lock they saw the *Grosni* loading tentacles lashing about the base of the ship, and the telescopic ladder in wreckage on the ground. Suddenly the uncontrolled threshing ceased. One of the tentacles curled upwards, then another. Naydrad gave a yell as one wrapped itself around his waist and pulled him out, but Cedric submitted silently. Lockhart backed hurriedly as yet another came for him.

And the *Grosni* was talking again . . .

This time it was different. The pain was still there, but now it was controlled, screened off from Lockhart's mind. Instead of a mind filled with pain and confusion he found coherence, and in the instant before the *Grosni* narrowed its transmission down to simple speech, Lockhart glimpsed an awful lot.

Mixed with the awareness and impressions of a completely alien mind was the knowledge that the being had retained enough control during its suffering to contact him only when contact was requested, and then, out of thoughtfulness that was intensely humane if not Human, making the contact a diffuse one. Looking into that mind, and remembering the hurried and unsatisfactory work he had done on its brain, Lockhart felt like a louse.

With the tentacle curled tightly around his waist Lockhart was lowered gently to the ground beside the others. Then, as it wrapped itself around a supply container and hoisted it effortlessly aloft, he received his last message from the *Grosni*. It was narrowed down to just three words which sounded silently within his brain.

"*Thank you, Doctor.*"

XVII

Captain Kerron was a man who rarely showed approval of anything, Lockhart thought, and when he did a little went an awful long way. Lockhart felt his chest swell at the brief smile of approbation he received from the Captain at the conclusion of Naydrad's report.

Behind Kerron the big view-screen showed the distant *Grosni* ship. The loading tentacles had been withdrawn and all openings sealed. Take-off must be imminent.

The Captain's face grew suddenly stern again. His eyes practically bored holes in Lockhart and he said harshly, "Some of your party have been attempting to undermine loyalty to the Agency in a number of my officers. This must stop at once."

Abruptly, Lockhart suffered a horrible sinking feeling. Beside him Naydrad moved restively. Cedric remained silent.

Kerron's eyes noted the movement. He went on, "The girl Kelly has told me everything, and while I knew that certain of the wealthier members of the Tourist Class were being landed on Earth, I assure you I was unaware of the inhuman conditioning which was forced upon them, or of the political disruption being caused on your world. In the circumstances my duty is plain. We will proceed to Harla as quickly as possible, making just one call on the way. On arrival you will not be required to go to Agency Headquarters, but will be free to arrange a Hearing.

"This will undoubtedly cause trouble for me with my superiors, but, apart from the thanks due you from this planet's inhabitants, I am grateful to you for saving my ship. You have therefore achieved your purpose of gaining protection in this ship for your party—*my* protection. Further subversion of my officers is unnecessary. It is bad for discipline, and there is the danger . . ." his voice lowered perceptibly, though the other officers in the control room were well beyond ear-shot, ". . . that some of my men may be aware of this criminal core within the Agency, and be in sympathy with it, or even part of it. If these men discovered your true purpose, you would be lucky to reach Harla alive."

Lockhart breathed a deep sigh of relief. Kerron had had him worried for a moment, but the Captain seemed to be on their side all right. It was just that he ran a tight ship and wanted it to continue that way, and that his faith and loyalty in the Interstellar Travel Agency which employed him had been rudely shattered. It was probably these things which were the cause of the repressed anger in his voice.

"For this reason," Kerron went on, "the Earth party have been moved out of Crew Quarters and given the freedom of the ship. They, and you, will find mixing with other races interesting, I expect. Just remember to keep silent regarding the Agency, it is for your own good.

"That is all," he ended curtly. His nose wrinkled. "Except that I would suggest the three of you bathe as soon as possible."

An hour later, free at last from the odour of *Grosni* and in an outfit loaned him by Naydrad, Lockhart went looking for Hedley. Despite what Kerron had told him he expected to see the Earth party together; they had all too much on their minds to go sightseeing round the ship. He found them in a small passenger lounge, and his entrance went unnoticed because they were crowded against the view-port watching the *Grosni* ship. It was taking off.

Boiling clouds of dust and smoke obscured its outlines and softened the incandescent glare around its stern, and loud even through the hull of their ship its reaction motors screamed and thundered with a sound that could be felt rather than heard. Slowly it began to rise, veering, overcompensating, then veering again it staggered drunkenly upwards trailing a long blue spear of light after it. Lockhart bit down on his lip, swaying tensely in sympathy with that gyrating ship, thinking desperately that he should have advised the *Grosni* to wait a while before moving. A Human patient would have been on his back for days . . .

By some miracle the ship held vertical. With steadily mounting velocity it screamed upwards to become a shrinking blue star in the sky, then nothing. Lockhart let go his bruised lip and forced his fists to unclench themselves.

"Well, well," came Fox's voice, followed by an admiring whistle. "You look real cute, Doctor."

Lockhart tried not to show embarrassment as all eyes turned towards him. He was wearing the silver blouse with the diagonal red sash of a Chief Medical Technician, shorts and calf-length boots. Lockhart had shied at wearing the outfit, but Naydard had insisted that he was more than qualified to wear it—besides, these were the only spares which the other had. But Lockhart felt uncomfortably conscious of his bare knees.



Though they were all smiling, Lockhart realised that it was not at his bare knees. It was Hedley who spoke first.

"So you saved our bacon again, Doc," he said, waving towards two chairs beside him. "Come and sit down. There have been developments since you've seen us last, I want to talk to you."

Lockhart was suddenly glad to sit down. All their problems were solved. He could relax.

"If you mean about Kerron taking us to Harla," he said, "and giving us the freedom of the ship, I've heard it, from him."

"Oh," said Hedley. He gave a half-angry toss of his head, then went on, "Doctor, I'm uneasy about all this. We've been too lucky. This trip to Harla should have been the trickiest part of the job, but we're having no trouble at all—"

"Speak for yourself," Lockhart said tartly.

Hedley grinned. "Yes, of course. You've been having all the trouble so far, and are directly responsible for this good luck I've been worrying about." His brows drew together and he fell silent, still worrying obviously.

Lockhart ignored him, his eyes travelling idly about the room. Kelly was missing, he saw, and he had left Cedric singing madrigals—he supposed it was madrigals—in his bath, but everyone else was there. Draper, Simpson and Fox were talking quietly together at the viewport. They were not quite at ease and there was a tenseness in their expressions—a sort of lost, or rather transplanted, look. The Keelers were in a corner by themselves. Mrs. Keeler was chiding Junior in a tired, despairing voice, knowing that she was wasting her breath. Her husband was staring moodily at the floor. Deep lines had cut themselves into his forehead and around his mouth. Plainly he blamed himself for landing his family in their present fix.

The Keelers puzzled Lockhart. The FBI man seemed very fond of his wife, and though he gave the impression of being easy-going to the point of laziness, his job proved that he was not the type to stand any nonsense—especially from an eight-year-old son. Young Keeler was an ex-quiz kid, of course, a species prone to spoiling by too much fame at a tender age, but Keeler seemed strangely awkward with the youngster.

He was basing a lot on just a few impressions, he knew, but Lockhart suspected that Keeler had acquired his family ready made—Mrs. Keeler perhaps having been a war-widow with a grown son when he married her. Perhaps too that acquisition had been recent, and the holiday in Ireland had been their honeymoon.

A fine honeymoon it had turned out to be.

For some reason Lockhart began to think of Professor Brian and the other agent, Carson. The Professor had been left standing by their car at the beach, and Carson had been sent by Hedley to London with a last-minute report. He wondered what they were doing now.

"You know," said Hedley, breaking suddenly into his thoughts, "Kerron gave us the freedom of his ship just a few minutes after you'd left for the *Grosni* ship. Kelly must have convinced him that you were quite a Doctor. And while you were over there, the ferry-ship took off. Peculiar."

Lockhart was silent—not in thought, but because he felt suddenly too tired to think. Across the room Junior had left his mother and was prowling about the room with his space-blaster at the ready. It was the same gun with which he had soaked Fox in Portballintrae,

but it was empty now and he had not yet found a way to re-fill it from the water dispensers in the ship. He looked slyly all round, then darted out into the corridor. Lockhart moved instinctively to stop him, then relaxed. There should be no danger out there now.

But Hedley was looking at him as though expecting some comment. Lockhart said, "Er, I'm surprised the Retlonians let the ferry-ship take off."

"Kerron was anxious to report the situation to his superiors, he said, and he agreed to filling the ferry-ship with natives providing one of his officers could take his message along. That's why the ferry wasn't blown out of the sky. And another thing. When you were busy with our large friend another ship landed and started embarking refugees. It was a Government ship—belonging to what I suppose we'd call the Federation Navy—sent here by one of the first Retlonian craft to flee. I was with Kelly and Kerron and saw it arrive."

Hedley paused. He looked down at his large, brown hands and went on, "I suggested that Kelly being a Federation Agent should contact the ship and arrange a transfer for us. I would have felt a lot easier with us on a Government ship. From Kerron's face I couldn't tell what he thought of the suggestion, but Kelly didn't like it at all, she thought we'd be better off where we were."

Lockhart felt himself tightening up again. He had thought that they were all safe, that it would be just plain sailing from here on in. Maybe they were safe, Maybe they just did not know enough of the background to realise that Kelly's suspicious—to Hedley—behaviour was correct in the circumstances. Sardonicly he remembered that only a short time ago Hedley had manfully defended the girl against his suspicious mind.

"So you suspect her of something," Lockhart said. "What?"

"I don't know, I just don't know," Hedley said irritably. "Maybe it's better to stay here for some reason, but . . ." He broke off and swore under his breath.

Hedley, Lockhart realised suddenly, was the worrying type, and it was obvious that the success of their mission was his personal responsibility. The agent's face was impassive and unreadable, but there was a stiffness in it that showed the effort needed to keep it that way, and Lockhart did not like the look in his eyes. He wondered if Hedley was going to go to pieces on them. If that happened . . .

"She knows the ropes here better than we do," Lockhart said reassuringly. "I wouldn't worry about it too much if I were you. But there are a few things I want to ask her myself. Where is she?"

"With Kerron, probably," Hedley said shortly.

"Now that we're on our way to Harla," Lockhart said, "it's time she gave us an idea what to expect there. How are we supposed to act in this Galactic Court, for instance . . . ?"

Lockhart broke off as an officer entered the lounge and approached Hedley. He folded his arms, bowed and politely requested that the Earth party move to the main passenger lounge as this one would shortly become untenable. It appeared that the wiring under the floor required attention.

Whether they liked it or not they were going to meet the other passengers.

The *Shekkaldor* left Retlone and put the necessary distance between it and the planet's gravitational field for its Hyper-drive to function accurately, then it executed the shift through nowhere which brought it out somewhere else. That, despite Naydrad's explanation of the process, was how Lockhart thought of it, and in this case 'somewhere else' was the system of Karlning. They landed and disembarked the passengers who were natives of the planet, which took about half an hour. In another hour the routine of the port had been gone through and the ship was ready to leave.

But six hours later they were still there.

Hedley said, "What's Kerron hanging around for? He said he was going to take us to Harla as fast as he could."

The same question was beginning to worry Lockhart. He continued his slow pacing along the corridor without saying anything. Kelly might know the answer, but the girl just wasn't available these days. He had not seen her since the landing on Retlone. And he was becoming as jumpy as Hedley.

Sometimes he shared the agent's doubts about the girl, but then he would remember how she had looked at the concert in Paris, and on Mount Errigal. Mostly he thought of the way she had clung to him during that dance in Portrush. When he thought of that he invariably picked an argument with Hedley to give himself something else to think about, and to blow off steam. Kelly was not avoiding the Earth party so much as Lockhart himself. She was a Galactic Citizen who had allowed herself to relax before a barbarian by the name of Lockhart. She was probably keeping away from him in case he got the idea that it had been more than that.

Kelly's lack of contact with the Earth party had been a source of anxiety at first. Remembering her warnings about the shipboard code of behaviour and manners—designed to avoid friction between individuals of widely differing cultural backgrounds—they had been worried about meeting passengers without a detailed knowledge of it. But to

the *Shekkaldor's* passengers the Earth party could do no wrong, any lapses were either laughed off or ignored. The *Grosni* incident was responsible for that. And Fox.

Fox could blow a mean mouth-organ. A passenger had heard him playing dolefully to himself in a corner of the main lounge, and now . . . well, Sinatra never had a more enthusiastic and near-hysterical following. The craziness of it all made Lockhart wonder suddenly if Galactic citizens were so very superior to people like himself after all.

His thoughts were rudely interrupted by Hedley gripping his arm.

"Look!" the agent said, pointing through the view-port which they were passing. "The ferry-ship!"

It was the ship which had landed on Earth, transferred them to the *Shekkaldor* and later taken a load of Retlonian refugees—and Kerron's report—to Harla. Now it was returning sliding silently downwards with the broad fins which gave aerodynamic stability catching the sunlight.

"Maybe that's what Kerron has been waiting for," Hedley began thoughtfully, when the sound of running feet behind them made him stop. They turned quickly.

Junior was moving so fast that he ran full tilt into Lockhart's legs. Grabbing two small fistsful of Lockhart's shirt he gasped out, "Come quick!"

"What's wrong?" Hedley said sharply.

Junior's eyes turned to Hedley. They were big and wide, though more with excitement than through fear, Lockhart thought. Junior fought for breath for several seconds, then panted, "It's Mr. Simpson and Mr. Draper. Pop says they're dead."

From somewhere inside the ship there was the unmistakable sound of a revolver shot. It was repeated twice.

XVIII

They reached the main lounge in seconds, then stopped abruptly just inside the entrance.

Fox stood half crouching in the centre of the floor, a harmonica in his left hand and a heavy automatic pistol in his right—but there was nothing ludicrous about the look on his face. His gun pointed steadily at the figure in Astrogation section uniform who was half-sitting and half-lying against the wall. The officer was bleeding from the nose, there was a hole in the sleeve of his pale blue tunic and a little blood was trickling down past his wrist. The shattered remains of a needle gun lay near the hand.

A few feet from Fox and with his back to him stood Keeler. The FBI man's gun covered the twenty-odd passengers currently inhabiting the lounge. His stance was more relaxed, but his freckles showed prominently. On the floor between them Simpson and Draper lay in abandoned attitudes, like unstrung puppets.

Lockhart went across to them, but he knew that he could do nothing. The needle gun was a very civilised weapon, he thought bitterly; it was painless, but one of those poisoned needles anywhere on the body—even in an ear-lobe—meant death in seconds. Hedley spoke from behind him.

"What happened here?"

Fox was muttering steadily to himself, his eyes boring into the face of the officer on the floor. Hedley repeated himself, sharply.

"I . . . I didn't see it all," Fox said, his eyes shifting briefly towards Keeler. Lockhart sensed that he was angry, and embarrassed somehow, about something other than the two still figures on the floor.

"I saw it," Keeler said thickly. "I saw it all."

"Well?"

"My son was hiding behind that," Keeler said, pointing to a large, heavily-upholstered chair. His voice was without inflexion and his eyes would not meet Hedley's. "An officer came in and my son jumped out on him from behind it. He yelled for the officer to 'stick 'em up' and he pointed his gun at him . . ."

Lockhart could see the bright plastic toy lying on the floor. It had been stepped on several times and showed it.

". . . this officer," Keeler went on, indicating the man lying against the wall, "drew a needle gun and stepped back, aiming it at the boy. Fox, Draper and Simpson were sitting close by. They jumped up. Simpson shouted that it was only a toy and grabbed the officer's arm. The needle gun went off. Simpson was still falling to the floor when the officer took aim and fired at Draper, who had made no movement other than rising from his chair. Draper fell. Fox closed with the officer and landed a couple on his face, knocking him where you see him. Then Fox drew his gun and held it on the officer and I thought he was going to kill him.

"I didn't know what repercussions that might have," Keeler said, wetting his lips nervously. "So I sent Junior to get you. Shortly afterwards the officer tried to grab his needle gun, which was lying near him. Fox shot him in the arm, then fired twice at the weapon."

Keeler met Hedley's eyes then for the first time. His freckles still looked like brown paint splattered on parchment, and his eyes were dark with pain. "I'm awful sorry," he said.

But he had nothing to apologise for, except Junior.

Curtly, Hedley waved the apology aside. He said, "Doctor, Simpson and Draper were armed. Shoulder holsters. Give me their guns." He snapped his fingers. "Quick!"

Simpson had a .38. Draper had favoured a Webley .45, a veritable cannon of a weapon. As Lockhart passed the guns to Hedley he wished suddenly that he had known the two men better. He felt that he should feel sorrier that they were dead, and he was ashamed that he did not. But Simpson had been nondescript and unobtrusive to the point of non-existence, which probably explained why Hedley considered him one of the best men in the department. It was difficult to grieve for a man like that, however. And Draper, big, slow-moving, taciturn Draper who had not exchanged a dozen words with Lockhart since their first meeting . . .

Hedley had been very fond of Draper, Lockhart remembered. He felt suddenly anxious. Why had Hedley asked for the guns, and in that tone of voice? What was he going to do with them?

Lockhart could not guess how this incident was going to affect their relations with Captain Kerron. Some very clear thinking was needed here, and quickly. But looking at the pale, immobile face of Hedley, and at his burning eyes, Lockhart knew that the agent was not thinking at all.

Abruptly Hedley was not looking at him, but staring at something over his shoulder. Lockhart twisted around to see what it was.

"Drop those weapons onto the floor. At once!"

It was Kerron, Lockhart saw. The Captain was standing inside the other entrance to the lounge.

"Quickly!" Kerron repeated harshly. "I could have had all of you killed without warning had I so desired. *Drop them!*"

The Captain was not armed, but the six officers ranged on each side of him were, and their hands were very steady. Lockhart slewed around to find that the entrance Hedley and himself had used was also filled with officers holding needle guns. One of them was also holding a red-faced and silently struggling Junior. The Keeler boy had been unable to give warning of what was happening, but Lockhart could see teeth-marks on the restraining officer's thumb. He almost liked Junior at that moment.

The guns of Hedley, Fox and Keeler thudded against the floor plastic. Lockhart straightened up.

"The right to carry weapons is the prerogative of every Federation Citizen," the Captain began angrily, "and I allowed you to retain yours in the belief that you were sane, responsible beings. I was mistaken, you are nothing but—"

"He killed two of my men," Hedley snapped, "and for no reason at all."

"Simpson might have been an accident," Keeler put in loudly. "But he aimed deliberately at Draper. I saw it . . ."

Several of the passengers began protesting to the Captain as well. Lockhart realised that Fox must have made an awful lot of friends among them.

"Quiet!" Kerron shouted. He pointed to one of the passengers. "You—what happened?"

The recital was practically a word-by-word repetition of Keeler's. The Captain cut it off as the passenger was about to add opinions to the facts and turned to Hedley again.

"My Astrogation officer was threatened by a weapon."

"But it was a toy," Hedley said angrily. "A child's plaything which emits a harmless jet of water . . ."

"The officer did not know that it was harmless," Kerron interrupted harshly. "The shock of having it pointed at him, and of two of your men jumping up apparently to attack him from the flank, this could cause a panic reaction during which he would think it necessary to kill your men in self-defence. I am unable to blame him for his action . . ."

A deprecating cough made Kerron break off and glance aside. One of the passengers had something to say.

"Before mid-day I was visiting my cabin," the man began nervously. "It's close to those occupied by the ship's officers. I . . . I saw the Earth boy and the officer in question together in the corridor. The boy had his weapon and the officer was playing with him in such a way that he must have known with certainty that it was a toy. He could not, therefore have been afraid of it when the boy later surprised him."

The Captain's eyes bored into those of the passenger while he spoke, but it was Kerron who lowered his gaze first. "This alters things," he said to Hedley, then he swung round on the recumbent Astrogation officer. "You! Get onto your feet. All of you, follow me. And put those things away," he said impatiently to the armed officers surrounding him. He turned and began leading the way to the control room.

Lockhart had never before in all his life experienced such a tongue-lashing. Even Hedley's ears had been red. It was not that Kerron had accused them of anything specific, he simply—on the basis of their recent behaviour—ripped the whole earth culture to shreds. Speaking very softly he had begun by objectively viewing a civilisation which allowed its youth to amuse itself with 'toys' which were simply

training models for the fullsize and lethal weapons which, he had no doubt, they would use just as frequently when they reached maturity.

Kerron admitted that the culture held much of value—its music in particular displayed an emotional depth and a sensitivity that was unique in the Galaxy—but this barbarous aspect of Earth's civilisation he found repellent.

Lockhart, though his face was burning with the rest of them, thought that Kerron was building an awful lot from just a toy gun. And there was something about it all that did not quite ring true. Lockhart wondered if the Captain was a fanatic of some kind, or a bit *too* civilised for his own peace of mind. When all Galactic citizens were allowed arms, why was he talking like this? But Lockhart didn't say anything. Kerron was not the sort of man one could interrupt.

With a sudden change of tone, the Captain went on, "From now until we reach Harla the Earth party will stay in their quarters. They will have no contact with passengers and as little as possible with ship's personnel. This is for your protection.

"However," he added, reaching into a pigeon-hole behind his desk, "it is apparent that my Astrogation officer—for reasons which he is hardly likely to talk about—deliberately killed two of your men." He straightened with a needle-gun in his hand and slid it across to Hedley. "It is your right to perform the execution."

Lockhart gaped at him. The Captain had been ranting at them about the savagery of Earth humans with one breath, then with the next he cold-bloodedly sentenced one of his officers to death, and at the hands of Hedley. With an effort Lockhart brought his disordered thoughts under control. Kerron's action was not in character with his previous behaviour. Something was going on . . .

The eyes of Keeler and Fox were glued to the needle gun as Hedley picked it up. The Astrogator stood with drooping shoulders, a dazed rather than a frightened expression on his face. Hedley's face was pale and strained as he took aim at the man who had killed two of his party, two of his friends. With awful certainty Lockhart knew that he was not thinking of their safety, or their purpose in reaching Harla, or anything but the tumbled bodies of Draper and Simpson in the main lounge, and vengeance.

"Stop!" Lockhart said urgently. "Are you mad?"

Hedley ignored him.

Lockhart's action then was instinctive, and stupid—he realised that when he had time to think about it afterwards. He stuck his hand in front of the tiny aperture of the weapon and said quickly, in English, "Use your head, man. This might be a test."

Hedley gazed hypnotically at the hand blocking his line of fire, then he shuddered violently, and swore. He dropped the weapon onto Kerron's desk as though it had been red hot.

"Of all the damn-fool things to do, Doc," he said. His face was still white, but something like sanity had returned to his eyes. "I might have killed you."

But if it had been a test, Kerron gave no indication whether or not they had passed or failed it. He signalled for the Astrogator to be taken out, then he said, "We will arrive on Harla tomorrow. Be prepared to disembark. And Doctor," he turned to Lockhart, "I would advise you to remove that uniform. Your own clothing has been cleaned and will be returned to you shortly. It would cause comment, you understand, for an Earth human who was bringing charges against the Agency to appear in the uniform of one of its officers." He smiled faintly. "That is all. You may go now."

So everything was going to be all right, Lockhart thought. But he felt strangely uneasy despite Kerron's reassurance. He tried to shake the feeling off. Probably it stemmed from his ignorance of the background forces which caused the Captain to react in ways which he could not understand, and which he therefore thought suspicious, a simple inferiority complex. He turned to leave.

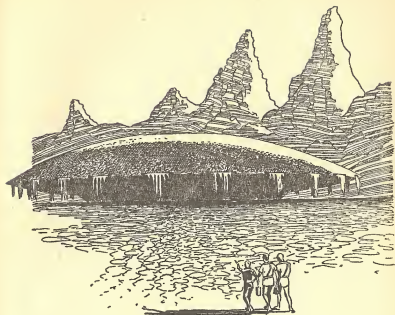
Suddenly he remembered a question which he could ask, and Kerron, if anybody, could give him the answer.

"Where is Kelly?" he said. "Why haven't we seen her this past few days? She was supposed to stay close to us."

Kerron nodded: "She was to have kept her eye on you, kept you out of trouble, and until the incident of a few minutes ago we didn't think you needed her. Your work with the *Grosni* insured your popularity with the passengers, and I thought that my authority would be sufficient protection against others. I was wrong, and I blame myself entirely for this tragedy.

"But to answer your question, she is still doing the work of a Federation agent among certain of my officers. And though her efforts are unnecessary—I intend helping you in every way possible—I don't want to stop her because . . ." The stern coldly composed mask of Kerron's face slipped for an instant, revealing a being tortured by fear, insecurity and a warring complexity of other emotions which were unreadable. ". . . I will need friends in the Administration when this is all over."

Three hours later they were gathered in the storage compartment adjoining their cabins into which Kerron had put an adequate number of chairs, when Fox broke a long silence by saying, "That Kerron—he's a peculiar character."

*Spencer*

Hedley grunted. "When he gave us the run of the ship," he said, "you remember he warned us that there might be officers here who knew what the Agency was doing on Earth, and be hostile to us. That Astrogator must have been one of them. But giving us that lecture, then handing me the gun to kill the officer . . ." Hedley shook his head. "I guess we just don't know enough about these people yet."

"But Kerron is afraid for his job," he went on. "You can see that. And he's trying to protect himself should the worst happen to him, whatever that might be. He's human after all, and I'm sorry for the hole we've put him in."

A sharp report, muffled by intervening bulkheads, put a dramatic period to Hedley's concluding sentence. Lockhart jumped to his

feet, the others stared wildly at each other. It was Hedley who relaxed first.

"We're all here," he said, then disgustedly, "Somebody is probably playing around with one of our guns. I hope he hasn't blown somebody's head off with it."

But, though he did not know it at the time, somebody had.

XIX

The Earth party left the *Shekkaldor* through a cargo port while general interest was centred on the passenger gangways. Kelly still had not contacted them beyond sending written instructions for leaving the ship. A ground car driven by a brisk, competent young man in black blouse and shorts of severe cut whisked them towards the perimeter. They had a hurried look at Harla, capital city of the planet of the same name, before the car dipped into an underground tunnel.

Everything, Lockhart was thinking angrily, had been done in a hurry in this affair. Something happened, an imperfect explanation was given for it, then something else occurred before it could be properly understood—and this, too, was only partly explained. There had been no time to think things out, to catch their mental breath. Lockhart didn't like that; he had a methodical mind. At the moment it seethed with questions.

Harla was the centre of Galactic administration. The Court was here, and with Vitlimen in a nearby system made up the double heart of Galactic civilisation. It was on these, the Central Worlds, that they practised rudimentary surgery, repaired *Grosni* ships and did various other things which commanded the awed respect of the Galactic citizenry. And here, Lockhart thought, should be the answer to questions which had nagged at his mind since boarding the *Shekkaldor*.

He caught a glimpse of some native Harlans when the ground-car stopped and they were transferring into what their driver told them was a pneumo-coach. The females wore blouses and long, tight trousers and the males wore loose ones, other than that they looked very ordinary. Two of them were laughing at something. They did not, as various people had led Lockhart to expect, look like citizens of a civilisation driven psychotic by boredom. They looked healthy and very sane.

The present vehicle being automatic, their driver sat with them. Lockhart decided that now was as good a time as any to start satisfying his curiosity. Especially about Kelly.

Hesitantly, he said, "I wonder if you'd mind telling me something about your—er—culture. There are some points on which I am not clear."

The Harlan looked up. For the first time Lockhart noticed the old, experienced eyes in that youthful and probably many times rejuvenated face. He smiled and said, "Doctor Lockhart, isn't it? No, I don't mind. On this assignment answering your questions is part of my job."

That was all Lockhart wanted.

The first question was a complicated one, and the Harlan frowned thoughtfully for several seconds before answering. Then he said, "The information given to you about our civilisation is correct for the most part, but it has been highly coloured by its source. That is understandable. It came from members of what we call the 'tourist class,' individuals who, although gifted in many ways, think that the galaxy has been created solely for their amusement. The need to experience new sensations is a neurosis with them, and you can understand, I think, how their defeatist slant on our civilisation stems from the fact that they could help it, but won't—a simple guilt complex.

"Generally speaking," the Harlan went on, "the drab similarity of environment throughout the Galaxy causes cultural apathy rather than intense boredom. Boredom presupposes a certain amount of dissatisfaction, and a being cannot feel dissatisfied if he has no knowledge of anything better than his present state. The citizens of these worlds may be apathetic, unimaginative, moribund, but they are rarely bored.

"Someday," he continued, "we will succeed in shaking them out of this cultural apathy. We are having a little success even now on some worlds. But it will require hard work and a lot of time. That is why it angers us to see gifted people wasting their time when they could be doing useful work, and business concerns growing rich and powerful—much too powerful, sometimes—catering to them . . ."

The Harlan broke off suddenly and laughed. "You will understand, naturally, that *my* slant is biased in favour of the Administration."

Lockhart smiled faintly in return; he had not quite finished yet. When he spoke he was thinking of the time on Retlone when Kelly had turned down their suggestion for transferring to a Federation ship. That incident had bothered him a lot.

He said, "If Kelly is a Federation Agent, why did her account differ from yours?"

"Because," the Harlan replied, "she isn't an Agent."

Up till then nobody had been paying much attention to the conversation, but suddenly the Harlan was the focus of all eyes. Fox said, "What?" Cedric just gaped.

"Oh! She didn't tell you, then," he said, looking faintly uncomfortable at his accidental breach of confidence. "No. She was one of the passengers on the Agency ship which Hargon was investigating.

He decided to trust her with the information which he had obtained up till then—he knew it would be only a matter of time before he was killed or conditioned because of a slip he'd made—in the hope that she would bring it here. But a chance of gaining more information presented itself and she decided to carry on where Hargon left off.

"Because of her youth she has not yet undergone the rejuvenation treatment and has unrealistic and romantic ideas about an Agent's work," the Harlan went on, "but she did that work exceedingly well. She reached Earth, was lucky in contacting Cedric—who gave her the Earth language spool—and eventually your group came along. Kelly is a most unusual girl to be of the Tourist class. She can be a real Agent if she wants that, unless she's decided by now that it would be more romantic to be something else." He gave Lockhart a peculiar look, adding dryly, "Something in the Medical speciality, perhaps."

Before Lockhart could reply a surge of deceleration bent them forwards in their seats. The vehicle stopped and the Harlan led them across a small landing platform to an elevator. They shot upwards for what seemed a very long way.

Almost talking to himself, Fox murmured, "She certainly is an unusual girl, doing what she did for us . . ."

"Yeah," Keeler said softly. "And her a civilian, too."

The others were silent. It was a respectful silence.

Lockhart was thinking that somebody should thank her—except that saying "Thank you" for saving a whole world's population was so utterly inadequate that it verged on being insulting. And somebody, himself, should apologise for the suspicions he'd had about her. The Harlan had told them that she was waiting for them in their quarters, but Lockhart found himself wanting to avoid her. It was his inferiority complex again, he thought angrily. But he kept remembering Port-rush, and that dance hall, and how he had almost stayed there until too late. The Professor had called her 'Joan of Arc.'

She was unattainable—except, perhaps, by someone who was her intellectual and cultural equal.

The elevator stopped and the Earth party were led along a bright, indirectly lit corridor to their quarters. These consisted of a large, central room with others leading off it, but nobody was paying attention to layout or appointments just then. One wall of the central room was a sheet of air-clear plastic, and through it they could see Harla.

The city spread outwards before them to the horizon, the surface and air above it thronged with traffic. The architecture of the buildings was that of the simple, functional cube—impressive in their numbers and size, Lockhart thought, but not beautiful as individuals. All except one, that was.

Less than a mile away a slender white tower rose tapering into the glaring blue of the sky, dominating the city. It was flawless, breathtaking, a poem in metal and plastic . . .

"That is the Court," the Harlan said, breaking the awed silence. There was more than just a trace of pride in his voice. He began quoting statistics.

The Galactic Court was the most intricate and extensive linkage of electronic brains in existence, containing more than two cubic miles of electronic equipment. It was capable of solving hundreds of problems—or more precisely, passing hundreds of judgements—per minute with the impartiality possible only to a machine. Normally a 'judgement' was all that was necessary for most cases, but when something really serious came up—something requiring punishment, for instance—human 'judges' were needed. A machine could judge fairly, but it could not pass sentence.

In this case six Judges would be present. Harlnida, the planet's Chief Administrator, would be one of them, the other five—two of whom had Agency leanings were off-planet dignitaries of various types.

"The reason for both friendly and hostile Judges during a Hearing," the Harlan explained, "is to avoid the danger of a too-harsh sentence being passed on the guilty party. The Judges possess the power of summary execution, provided they are all agreed on it, but that has not occurred for centuries.

"You all know of the lie-detector system used by the Court," he went on. "Present your evidence clearly and truthfully and you have nothing to worry about. The Hearing is set for tomorrow. All that remains is for me to warn you to have no contact with strangers until then." He turned to go. "I will leave someone on guard at the elevator shaft in case—"

"Just *one* man?" Hedley asked.

"Some security system they've got here," Fox said in a scathing undertone to Keeler. The Harlan looked at him sharply.

"We have sources of information within the Agency," the Harlan said with a touch of impatience, "and while their exact plans are unknown, we know with certainty that there will be no attempt by them on your lives. Widespread re-organisation is taking place within the Agency at the moment. The war planned for Earth has been called off and an attempt made to whitewash their activities there. The adverse decision of the Court will, of course, force them to reveal the co-ordinates of your planet so that a full investigation can be made. Our chief concern is not for the Hearing, but what we are going to do with you afterwards."

His tone became almost apologetic.

"You are an able race of Humans," he went on, "and will be capable of great things in the not-too-distant future. But knowledge of the Interstellar Drive or the Longevity treatment—which you are very close to discovering for yourselves, anyway—must come naturally for your healthy development. That is why, should you elect to return to Earth, all memories since your entry into the Agency ferry-ship must be erased.

"However, you are welcome to stay here. There are many ways for you to assist us. And Doctor Lockhart especially . . ."

"Excuse me," Hedley broke in, "but it seems to me that the findings of the Court are being taken for granted. We were expecting more trouble than this."

The Harlan held up his hand. "If your evidence is accepted by the Court as truthful, its findings are a certainty. So is the sentence."

"So it's all over bar the shouting," Hedley said with a long sigh. The lines around his eyes and mouth were smoothing themselves away. "We've done it."

"Yes," said the Harlan, smiling. He bowed slightly, then moved to the door. Before leaving he called something which sounded like 'Good-bye' in the direction of one of the side rooms. It was answered by Kelly's voice. Shortly afterwards she came into the main room.

A shrill, wolf-whistle from Fox was cut short by a disapproving glare from Hedley. Lockhart saw that she had changed to the Harlan mode of dress, and while he couldn't say exactly what difference it made to her, he very definitely approved. But her face was pale and tense. She looked frightened.

Lockhart said, "Hi, Secret Agent." He smiled. "I suppose they *do* call you Kelly? You've fooled us so much . . ."

He broke off. Kelly had clapped her hand to her face, whirled, and ran back the way she had come. The sound of muffled sobs came faintly through the open doorway. Lockhart, with a helpless look at Hedley, followed her inside.

"We understand," Lockhart said, putting his arm around her shoulder reassuringly. "Please don't do that. Nobody's angry with you. On the contrary . . ."

"I meant to tell you everything," she said, sniffing, "before we left Earth. I was afraid. I wanted to tell you—that day in the car—but you changed the subject. It was too late afterwards. Kerron was keeping me busy and . . ."

"You can tell me now," Lockhart said placatingly. "The Harlan didn't say much about it." He gave her his handkerchief.

She told him of the adventure, in detail, then of her background. Somehow, before Lockhart knew it, they were exchanging life stories. From the adjoining room came the sound of Fox playing "Frankie and Johnny" with Keeler and Hedley supplying the vocal until Junior threw a tantrum because he wanted to play the mouth-organ and Fox said no soap. Hedley said several times that it was a pity old straight-laced Kerron was not there to be properly thanked for what he had done for them—especially as he was almost certainly in trouble over it.

The evening wore on and dusk fell. The stars came out.

Lockhart knew then why this was called one of the Central Worlds. Here, in the centre of the galactic lens, the stars burned so thickly and so close that the sight of them caught at Lockhart's throat. It made him want to cry, or cheer, or something.

A pounding on the outer door startled him. Lockhart gently but hurriedly eased Kelly's head away from his shoulder and got to his feet. The pounding was repeated, accompanied by a muffled voice, then the hiss of the sliding door. Lockhart, closely followed by Kelly, went quickly into the main room. When he saw who it was he almost laughed out loud.

The hair was no longer dyed grey, the face wore a wide, loose grin instead of its customary severity, and the tall, commanding figure was slouched forward and swaying gently, but it was Kerron all right.

"For Pete's sake," Fox said incredulously, "Just smell the man! Whisky . . . !"

XX

Despite his keen interest in their surroundings and in the processes of Galactic Law to be unfolded before him, Lockhart's strongest emotion was shame. It was not that Kerron—intent as he had put it, on drowning his sorrows at being kicked out of his Senior Captaincy and celebrating the Earth party's success at the same time—had been the cause of his getting more than slightly drunk. The others had been pretty high, too, and after the tension of the past few days he couldn't blame them. It was simply that he had taken too much of Kerron's Earth whisky, and while under its influence had proposed several times to Kelly. He was ashamed of that.

If Kerron's arrival had not interrupted them he would have proposed to her anyway, but sober instead of drunk.

The only good thing about the affair was the absence of a hangover. Maybe it was as a bibulous, woebegone yet strangely likable ex-Captain Kerron had stated, that the constant ducking in and out of hyperspace had that affect on his smuggled Earth liquor, or maybe he

had been making a joke. It was hard to think of Kerron making a joke, but then it was hard to think of him drunk.

Beside him Kelly moved restively. "The Judges are coming in," she said. "It won't be long now."

The great domed hall set atop the Court building could hold two thousand comfortably and had never been filled before, now it held almost double that and they did not seem to mind the discomfort. In the centre of the vast room was a white dais with two dull metal cabinets on it, with a chair between them. The cabinets were the visible part of the Lie-detector, and of the associated mechanism designed to tell if the witness was using some means to beat the Detector. Their findings were communicated by indicator lights set above each. The Judges' positions were about twenty yards from the Detector, and between were what Lockhart mentally referred to as the defence counsels. Also in this area, but nearer to the public section, sat Hedley, Keeler and Fox, plus a few Court technicians. Lockhart, who was in the first row of the public inclosure, could see that Hedley was beginning to fidget.

As the six Judges took up their positions, Kelly pointed out Harlnida, the Chief Administrator. He had a young, strong face that was compelling solely because of the eyes. The eyes were old—hundreds of years old—and very, very wise. With no formalities at all the signal was given to commence.

Lockhart set his pile of notes on the chair beside him—which had been occupied by Mrs. Keeler until Junior had begun acting up and they had to leave. He checked his two-way radio, making sure the button 'speaker would not slip from his ear, and settled back to wait until he was needed.

Hedley had wanted a prompter in case some of them forgot parts of their evidence, and Kelly had procured the two sets. Nobody had objected to their use. Without them he would have had to shout across thirty or forty feet to the agent.

Galactic was not a flowery language. Had Shakespeare written Mark Antony's speech in it, much of the emotional content would have been lost. But the Agency counsellor did not do badly despite that.

He opened by admitting that the Interstellar Travel Agency had been guilty of secretly taking small numbers of tourists to Earth, that very large sums of money were charged for the trip, and considerable profit was made from the undercover sale of pictures and music tapes taken on the planet. All this was admitted, and while they could only throw themselves at the mercy of the Judges for unlawfully keeping secret the existence and position of an inhabited world, he stressed the fact that avarice was only part—the smallest part—of their reason

for doing this. It was done mainly for the protection of the Galactic Federation.

The Earth culture he likened to an edible root whose foliage contained a deadly poison. The planet was dangerous, its people and their products a threat to the mental stability of Galactic Citizens unless a filter was interposed which allowed only the harmless, or relatively harmless, portion through. The Agency had been this filter, conducting an altruistic censorship which could be better appreciated by Human Judges than a machine.

One of the Judges, wearing the blue sash of the off-planet resident, interrupted at that point. He said, "The Court, though a machine, can evaluate the property which we call altruism if proof of altruism exists. Does it?"

The Agency counsellor was silent for a moment, then he said carefully, "Agency personnel are given protective hypnotic conditioning before landing on the planet, and none of them are immediately available—"

"Conditioning! That is forbidden, being both a violation of privacy and in its grosser forms actual enslavement—"

"The process is both harmless and temporary," the counsellor said quickly. "Not, as these three members of the Earth party will later suggest to you, a widespread and inhuman method of ridding ourselves of the tourists we take to the planet." He paused and went on more slowly, "We admit that these Tourists rarely if ever return, but that is because they choose to stay. They are not interfered with either mentally or physically, with the exception of Educator treatment on Earth language and customs. Protective devices and money are supplied them, and they may continue with Longevity treatments as long as they please.

"These charges against the Agency," he continued in a voice throbbing with righteous anger, "are lies brought by a group of scheming, vicious Earth-humans whose abberated intelligence is shown by the way in which they forced entrance onto an Agency ship, there making heroes of themselves to its passengers by the action of one of their number . . ." Here he turned to point accusingly at Lockhart. ". . . in curing a *Grosni* which was said to be dying. Oh yes, they made friends on the *Shekkaldor*, all right—rich, powerful friends. And I would suggest that it is these 'friends' with their resources and knowledge of current conditions in the Federation who are responsible for these charges against us. If the Agency could be discredited, ruined, then certain business organisations who have been bemoaning the fact of the Agency's monopoly of interstellar commercial transport would stand to profit. Not to mention," he added, with an oblique

glance at Harlnida, "the relief it would give the Administration, who have been accusing it of sedition for the past century or so."

Besides Lockhart, Kelly said worriedly, "Why is he conducting it like this? He should be blaming the crimes on a secret group within the Agency, offering co-operation to bring them to justice, and trying to salvage what remains of the business. Instead you would think he was trying to *win* the case."

"But I am convinced that this vicious conspiracy must fail," the Agency counsel was saying. "No matter what ingenious scheme they have thought up to fool the Court—and again I would stress that they are an able, intelligent and extremely dangerous race—the attempt must fail. If it does not, and these . . . these savages gain a favourable decision . . ." His shoulders drooped, and in a voice thick with suppressed emotion he said, "If permitted I will show two vision recordings which give some idea how an Earth-human can behave."

In Lockhart's ear-speaker the tinny voice of Hedley said, "This man's good. But what's he playing at . . .?"

Just then Harlnida interrupted to ask if there were witnesses present who could state to the Lie-detector that these records were complete, accurate and true.

"No," Agency counsel replied. "One is a fragment only, taken by a passenger during a quarrel between the *Shekkaldor's* Astrogation Officer and this man." He pointed to Fox. "The other was taken simply because the same officer had to leave his desk and left a sound and vision recorder trained on it in case a message arrived for him in his absence. The passenger left this morning on the *Shekkaldor*, as did the member of the crew who first saw the body."

Body: What body? The bodies of Simpson and Draper had been buried in space shortly after their deaths. Kerron had insisted—understandably—on that, because of the accelerated decomposition which the poisoned needles caused. Lockhart felt a sudden premonition of disaster. What body was this?

A signal must have passed between the Judges. Harlnida said, "Permission is granted—though personally, I fail to see why these recordings are being presented when the Earth-humans will ultimately undergo Detector questioning."

The Agency man asked that the windows be polarised. Lockhart watched a large white screen being lowered from the domed ceiling. He could view it comfortably by lying back in his seat. Lockhart indicated the counsellor and said, "Why don't they put him under this super lie-detector of yours? He's not only twisting the facts, he's tying them into knots."

Kelly shook her head impatiently. "He is acting on instructions, and believes that he has been told the true facts. Can't you see that?"

She bit her lip. "This is insane. The only reason I can see for his conduct is to panic you into some action which would discredit you. Or possibly he wants to arouse feeling against you among the Judges and public. But I don't see how he can. His evidence is not verifiable by Detector, yours is. He's throwing the case away."

The sharpness of Kelly's tone angered Lockhart, even though he knew that both it and his anger were due to their rapidly growing anxiety.

The light dimmed. A picture, in colour but without sound, appeared on the screen. It showed the *Shekkaldor's* Astrogator staggering backwards against a wall and slumping to the floor. It showed the blood pouring from his nose, then the picture-slewed crazily and Fox filled the screen. The bodies of Simpson and Draper were not in view, neither was Keeler; just Fox. And Fox was holding a revolver, his face distorted by rage and grief. Fox mouthed something and smoke spurted from the gun. The picture swung to the Astrogator again. It showed him gripping his arm tightly, his face contorted in pain and blood from his wound beginning to ooze through his fingers. It did not show the needle gun he had been trying to snatch from the floor. Then it blanked out.

Shocked, incredulous gasps arose from the public section. Hedley began protesting loudly that there was more to the picture than had been shown, but the stern voice of a Judge ordered him to be silent.

There was more, and worse, to come.

This time the Astrogator's back was shown, sitting stiffly in a chair before his control desk. A second figure moved into view, also with his back to the camera pick-up. It was dressed in Earth-style clothing and held a revolver which was pointed at the Astrogator's head. The figure looked oddly familiar to Lockhart, until with a mind-wrenching shock he realised that it was himself.

Or rather, it was wearing Lockhart's clothing.

This visual record included sound, and the report of the gun was thunderous. The officer was flung forward by the force of the bullet, a round, dark hole appearing in the back of his neck like magic. Then his swivel seat turned slightly, and he slipped off to lie face upwards on the floor. But somebody must have notched the bullet with which he had been shot. 'Face' was not the proper word for that bloody eruption. Lockhart had seen worse sights during the war, but not much.

"That wasn't me," Lockhart burst out. "I didn't see that officer after we left him in the control room with Kerron . . ."

He broke off as light returned. Kelly was looking at him. So were the six Judges and all of the crowd. Their faces were sickly pale, and

from the public section a low, angry muttering had begun. Lockhart knew that the *Grosni* incident on Retlone had made him a hero, a legendary figure whose offences against custom were laughed off. That, he knew without false modesty, was the chief reason their trip here had been relatively trouble-free. But looking at the white, angry faces glaring at him now, he reminded himself that the Devil was a legendary figure, too . . .

"I know it wasn't you," Kelly said. "But . . . but I'm frightened . . ."

"He's trying to get the crowd to lynch us before we get a chance to testify," Lockhart said wildly. A few minutes ago he would have laughed at such a melodramatic suggestion, but now there was nothing in it to laugh at.

"They would not commit violence like that," Kelly said, reproof in her tone. "They are civilised people."

It was several minutes before the Judges restored silence and order. During that time Lockhart saw Hedley being led to the seat on the Detector dais. A device comprising a large number of tiny, revolving mirrors was hung before the agent's eyes, metallic discs were attached to his head, neck and arms from which wires trailed, and a number of blood samples were taken. These tests, Lockhart knew, were exhaustive, and would uncover any attempt by a witness to fool the Detector. A light metal helmet was placed on his head and connected to the Detector cabinet, after which the testing instruments were removed. Hedley was told to begin before the test data had been fully analysed by the first cabinet—its indicator lights were still dark—and the agent began to speak.

Quietly and without dramatics, Hedley began with a resumé of the Agency's machinations on Earth, including their cold-blooded treatment of the Tourists. Then he told of the autopsy of Hargon in Paris, and how this had led them to Portballintrac and eventually here. As he talked the indicator lights flickered and went on, first above the analyser, then the Detector—both of them pale green. There seemed to be no thaw in the feelings of the crowd, Lockhart noticed, which was surprising, because Hedley's sincerity was unmistakable. If anything they had grown more hostile. Lockhart switched his attention to the Judges.

All the faces registered open hostility—mixed in Harlnida's case, with a look of bitter disappointment.

It was Harlnida who spoke. Pointing to the indicator lights he said harshly, "The Detector refuses your evidence. The tests show that you have recently introduced the drug *Crylthis* into your system. Your evidence is therefore worthless."

XXI

Hedley looked thunderstruck. Lockhart felt the way Hedley looked. Just before the first shock wore off he thought fleetingly that it was some kind of joke being played on them, then his mind became a churning mass of wild questions . . .

One of the questions was asked by Hedley.

"What's *Crylthis*," he said angrily, "we've never even heard of the stuff?"

Harlnida said impatiently, "It is a combination of rare and extremely expensive drugs, the use of which makes it impossible for the Court to decide whether a witness is lying or not. It was developed in secret and its existence—together with the tests which show its presence in the Human system—has become known only recently. You are full of the stuff."

"There's some mistake," Hedley protested. "I've taken no drugs, none of us have. The machine must be at fault . . ."

"The testing devices are not at fault."

Hedley looked wildly about him. "There's something wrong somewhere. There has to be. But wait! There's two more witnesses. Keeler," he said desperately, "Keeler and Fox. Let them give evidence."

Gripping his knees tightly and breaking off every few seconds to lick his lips, Keeler talked until the machine behind him had finished its analysis of his test samples, then he stopped. The indicator lights were burning pale green.

Hedley said, "Fox." He sounded sick.

But with Fox it was the same. Pale green light; evidence refused by the Court.

Beside Lockhart Kelly sat frozen, her face buried in her hands. He could get no response from her. And Hedley's set must have been switched off because he could not raise the agent either, short of shouting across to him. But what did it matter, he suddenly asked himself. Their plans and hopes had been blasted at the last moment, there was nothing left. They had been stupid to even think that they could get away with it—a handful of Earthmen against an interstellar business empire, and fighting on the enemy's own ground, too. They didn't know enough. Galactic civilisation was too complex. Why fight it any longer . . .?

The sound of his name being called brought Lockhart momentarily out of his despair.

Hedley was saying, ". . . You all must know of Doctor Lockhart, and the *Grosni* incident on Retlone. You must respect him for that,

at least." Pleadingly, he went on, "His evidence will not be as detailed as ours—he was not meant to testify—but it should prove that we—"

"This is a waste of time," the Agency counsellor broke in. "They are obviously guilty of perjury and—"

"Shut up, you," Hedley said viciously; then, "Lockhart! Come over here, quickly!"

Lockhart's obedience as he began moving towards the Detector dais was purely involuntary. No slightest flicker of hope lit the stygian blackness of his despair. Not, that was, until he heard what Hedley was saying . . .

" . . . Somehow this drug has been given to us without our knowledge. But the party responsible must have missed the Doctor. He was separated from us, a mere observer. How else could it have happened? It was given, possibly in our food, and we didn't know that it had been done—"

"This ignorance," Agency counsel cut in sarcastically, "this *pretended* ignorance, is deplorable. You could not help but know that the drug *Crylthis* had been administered. Immediately upon being introduced into the system it produces a marked state of euphoria which lasts up to three hours, after which there are no sensations whatever. But," he ended impatiently, "you know all this already."

Lockhart was only a few yards from the Detector when the Agency man's words registered. He stopped dead. A great light dawned and he cursed himself bitterly for a blind, stupid, over-trusting fool. Hedley was urging him forward, but he shook his head. The machine would react to him exactly as it had done with the others. Lockhart turned and spoke rapidly to Hedley.

Hedley listened, swore, then swung round to face the Judges again.

"The drug was administered last night," he said. With desperate urgency he went on to describe how it had been done. He ended, "Our 'guard' must have been bribed by the Agency . . ."

It had been Kerron, of course. Kerron the stern, righteous Captain who, because of his help to the Earth party, had been dismissed from his high position in the Agency. Kerron had been a pitiable sight, yet one that drew admiration more than pity because, though he had been drunk and very, very sorry for himself and had lost most of his self-control, Kerron had never actually *asked* the Earth party to use their influence on his behalf. He had retained that much pride, at least.

And now Lockhart realised that it had all been an act. They were not drunk on Kerron's smuggled Earth whisky last night, they had gone into a state of euphoria produced by the *Crylthis* in their systems

—the 'whisky' taste probably being synthetic. They had trusted Kerron because of his actions on the ship—in a stiff-necked, disapproving sort of way he had been their friend, they thought. But Lockhart now knew that Kerron had been acting from the very first.

Kelly had told him the truth about the Earth party just before the landing on Retlone. He had pretended to be on their side, but while Lockhart had been busy with the *Grosni* Kerron had sent the ferry-ship to Harla with a report of the Earth party's bid to reach the Galactic Court. And if the *Shekkaldor* escaped from Retlone Kerron had asked that the ferry-ship rendezvous with him on Karlning with instructions from his superiors. That was the reason for the delay in taking off from the Karlning system.

Lockhart saw it all clearly now. After the *Grosni* incident the fantastic popularity of the Earth humans had frightened Kerron, and on his own initiative he had decided to do something about it. The Astrogation officer acting scared of Junior's toy gun so that he could kill Draper and Simpson had been acting on Kerron's orders. The fact that he had only killed two of the Earth party was probably the reason for his later being shot by an Agency man wearing Lockhart's clothes, he should have bagged more. They had all heard that shot, but had dismissed it as an accidental discharge of one of their confiscated weapons. Shortly afterwards Lockhart's clothing, cleaned of green mess of the *Grosni* ship, had been returned to him.

But that killing, and Kerron's decision to segregate the Earth party again, had occurred *after* the arrival of the ferry-ship with instructions from Headquarters. Those instructions must have stated that the Earth people were to be discredited rather than harmed, and the murder of the Astrogator had been towards that end. They had also ordered that Kerron, who had acted sympathetically towards them up until then, continue to do so until he had their trust. Then he would be in a position to really discredit them . . .

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TELEPORTATION

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Lockhart became aware that the Agency man had risen to reply to Hedley. His tone was scornful.

"The Captain Kerron you mention left on the *Shekkaldor* this morning. He is an exceptionally able officer and has never yet been disciplined in any way."

Lockhart had been expecting something like that.

"So Kerron isn't here either. Nor are the men responsible for taking those pictures you've shown us." Hedley turned to the Judges "Don't you think," he said with biting sarcasm, "that is just a little bit suspicious?"

"No," one of the off-planet Judges replied coldly. "The Tourist Class is not encouraged on Harla. There is no time for them here, so it is natural for them to leave after a very short stay. And let me remind you that you have used drugs which inhibit the body functions which indicate to the Detector whether the truth or a lie has been told. Your accusations and suspicions, like your evidence, are worthless."

Hedley began to argue, but Lockhart knew that it was no good. The Detector had the last word here, and anyone caught trying to influence it in any way was practically considered guilty on the spot. There was no chance of bringing Kerron back for Detector questioning, or anyone else who might help—the Agency would make sure of that. And the *Crylthis* took a long time to disappear from the system. The decision, the sentence, would be given here and not very many minutes from now.

The Agency, Lockhart knew, were only slightly less powerful than the Administration. If they succeeded here they would emerge stronger, and the Earth case would never again be opened. Lockhart shivered involuntarily.

The Court, that emotionless and impartial machine, had been effectively disposed of by the *Crylthis* being in their systems, which left the six human Judges. But these were hostile, even though most of them knew that the Agency was not completely innocent. They, long-lived, highly civilised and, because of this, having a veritable phobia about physical suffering, were so outraged at what appeared to be a cold-blooded murder by Lockhart that even Harlnida seemed to be against them.

But in the Galactic Federation they were civilised. They did not throw you in gaol, use the cat or anything else likely to cause physical or mental pain—such as awaiting one's execution. Lockhart remembered how, on the *Shekkaldor*, Kerron had given Hedley a needle-

gun and told him that it was his right to perform the execution of the Astrogator . . .

The Earth party was in danger of quick, painless and imminent death.

"But someone must have seen Kerron on his way to our apartments last night," Hedley protested. "And seen how drunk he acted. That would prove part of our evidence—"

"They may have seen a person resembling Kerron," another Judge cut in. "It proves only your foresight in providing yourselves with this story on the chance that your attempt to trick the Court would fail. The attempt has failed, and this second line of defence convinces no-one." He turned to glance along the five stern faces of his colleagues. "I think we have wasted enough time. Let us agree on the sentence."

"Wait !"

Lockhart had not known that he shouted until he saw the Judges turn to look at him. It was an involuntary protest against the cruel injustice of what was happening. It wasn't fair after all they had come through, and done. Desperately, he tried to think of some way out, but his mind was an incoherent, seething whirlpool that circled madly around his personal fear of dying. The eyes of the Judges were boring at him, but he could not think of a single thing that could help them. *Oh please*, he thought desperately, and he did not know whether it was a prayer or a curse, *please don't let this happen . . .*

Suddenly there seemed to be a pressure on his mind. It was a peculiar sensation. His mind was—rather, it had been forced to become—perfectly calm, but Lockhart knew that he was not responsible for this strange feeling of detachment. Their problem was still of great importance, but now it had become separated from the confusing side-issues of personal fear for himself and for his friends and race. It was simply a problem, and not a very difficult one. As Lockhart solved it he knew that it was he who had found the answer, but the vast, awesome calm which had descended on his mind, allowing him to find it, that had not been him. He had experienced a similar feeling before, however . . .

Thank you, Lockhart thought. *And thank you for letting me do it myself.* He wondered if it was the same *Grosni*. Then he swung round to Hedley.

"There's a way out of this, but you've got to stall these people until I get back." Seeing Hedley's mouth opening, he added quickly, "I can't tell you about it in case there are Agency men outside who could get there first. And keep the mike of your set switched on. I want to know what's going on in here."

Only four people made a determined effort to stop him as he sprinted towards the exits. The first he laid on his back with a perfectly clean rugby charge, but the other three ganged up on him, their concerted action making him positive that they were Agency men placed especially among the public. Lockhart was not trained in dirty fighting, but as a doctor he knew all the vital spots. He left them writhing on the aisle behind him and ran on.

Outside in the corridor leading to the observation gallery, the confusion of the chamber he had left came through the tiny speaker in his ear. Gradually order was being restored, one of the Judges was reassuring the Agency counsellor that the murderer Lockhart could not escape the building, who in turn was calling for an immediate sentence. Lockhart stopped as a thought occurred to him. He said, "Hedley, can you hear me . . ." and spoke rapidly for several seconds, then continued along the corridor.

He heard the voice of Hedley asking the Agency man if there had been any wars recently on Earth, and if so would *he* mind describing them as the testimony of the Earth-humans was not acceptable. Just, the agent added, to satisfy the curiosity of the Judges and public.

Oh, good man! Lockhart thought.

Agency counsel seemed to be reading from something as he replied. He said, "There have been no wars of the kind you described in the time which the Agency has been on Earth, some forty of your years. There have been petty squabbles—small, inter-tribal wars—which the Agency acting undercover has been able to curb before more than a few fatalities were suffered. Anything of such an inhuman and catastrophic nature as you have described would be immediately reported to the Administration . . ."

There was more of it, but Lockhart knew that the Agency man had said more than enough. If the Agency could be caught out in that lie, then they would be discredited, too. And knowing the horror most Galactic citizens felt for deliberately inflicted pain of any kind, that discredit would be great indeed.

Viciously Lockhart curbed his mounting exultation. He was being a little premature.

When he reached the observation gallery, the stretch of it visible to him was deserted. But it curved away out of sight on both sides of him, following the contour of the building, he knew, until it made full circle. Lockhart turned right and began running again.

Lockhart ignored the impressive view of Harla spread out on his left, instead he kept his eyes fixed on each section of the gallery curving into sight as he ran. He must have gone half way round the building by now, he thought in mounting anxiety, and still he hadn't seen them.

sfbc ÷ 21

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In his 'speaker he heard Hedley appealing for the chance to present a further piece of evidence. This evidence did not have to be tested by the Detector, he stated because it was evidence of ability, and of the emotional depth and richness of a small section of their race . . .

Fox began playing *Malaguena* . . .

Lockhart would have laughed if he'd had enough breath to do it. But three minutes later Fox was still playing, and the protests of the Agency counsellor had been curtly silenced.

Suddenly Lockhart came into sight of them. They were looking out over the city with their backs to him. Breathlessly, Lockhart shouted, "Mrs. Keeler . . . !"

Hedley said, "Keeler, you'd better handle this."

The FBI man moved across to the Detector cabinets and glanced up. Both indicator lights burned a clear amber, signifying that the witness was free of drugs or psychological conditioning, and hence a fit subject for the infallible Detector.

Naturally he was free of drugs, Lockhart thought; whisky was not, as a rule, given to eight-year-old boys.

Keeler said, "Son, this is a sort of quiz. It's the most important quiz you were ever in. But if you don't know any of the answers, don't guess at them—that's lying, and it will disqualify you. Now," he went on, taking a deep breath, "this is a triple question.

"How many World Wars has there been on Earth in the past forty years, how long did each of them last, and what sort of weapons were used in them?"

Junior giggled. "That's an easy one," he said smugly, and began his answer. While he spoke the indicator lights above him burned a steady amber. Detailed and blood-curdling descriptions of air-raids, submarine warfare, V-2's and flame-throwers—seen on news-reels for the most part, but acceptable as evidence because he knew that they were records of true events—made up the biggest part of the answer.

The silence in the great room could be felt. In the public section the faces of the crowd had gone a sickly grey. So had those of the Judges, and even the Agency counsellor. Harlnida's face was a shocked horrified mask, but a gleam of triumph had come into his eyes.

Keeler said, "Now this is a harder one . . ."

When Junior gave the casualty figures of both the World Wars, adding self-importantly that these did not include Korea, the trial was as good as over.

A lot had happened in the two months following the trial. Hedley, Cedric and the Keelers had been returned to Earth, Fox was rapidly becoming the most famous and widely-travelled minstrel ever known, and Lockhart was up to his eyes.

The things which he could learn in the medical centres of Harla and Vitlimen were awesome, yet he was able to teach them a lot, too. Starting in the near future was a project which Harlnida had asked him to head. A *Grosni* had died several years back and its body had taken up a stable orbit in the fringe of the Harlan system, preserved intact by the cold of space. Lockhart, with the assistance of an army of mining engineers, was to make a complete study of it so that the living members of the race could profit. He was becoming a famous man now, and as such had been able to secure appointments many times with the Federation's Chief Administrator. But this time he was not seeing Harlnida on business, and the reception he might receive made him uneasy.

But Harlnida was in one of his rare talkative moods. "I have heard that you intend making the *Grosni* life-form your specialisation, Doctor," he began. "I approve: in their present highly artificial existence they are helpless against any form of disease or injury, and their race—which has much of value in its philosophy—will die out unless something is done for them. But I hope your decision is not based solely upon gratitude . . ."

He was talking about the trial, when a *Grosni* had touched Lockhart's mind at the most critical point, calming it and allowing him to solve their problem. It had been the first time that anything like that had happened—previously it was thought that their telepathy did not extend beyond the hulls of their ships—and the occurrence had impressed Harlnida very much.

"No," Lockhart replied, a little impatiently. He had told Harlnida about his intended specialisation weeks ago.

"I'm glad," Harlnida said, then thoughtfully. "You belong to an unusual race, Doctor. When you discover the Interstellar Drive for yourselves, I hope you don't give the Federation an inferiority complex"

"Er, the reason I came," Lockhart interrupted with a gentle reminder. He felt his ears getting red.

"Oh, of course," Harlnida said apologetically. He picked Lockhart's note from the desk. His mouth quirked faintly, then he became business-like again.

"On Harla," he said, "the marriage formalities are quite simple . . ."

James White



Vividly threaded through my earliest childhood memories are fragmentary images from the fanciful stories of youthful pleasure—the fairy stories and adventure books which usurped precious reading hours from the stuffy primers of orthodox education. One of these treasured books was Defoe's classic of the desert-isle castaway, and although I probably have not read this again for over twenty-five years and Crusoe's philosophy was wasted upon me then, his attempts to make an umbrella and his feelings on discovering the footprint in the sand fascinated me completely. As a plot for a science-fiction novel, a modern—or rather futuristic—parallel of Crusoe's tale has probably been pounced upon by many a would-be stf chronicler before being discarded for lack of a suitable twist. Rex Gordon's **No Man Friday** (Heinemann, 13/6d) to my mind, has successfully achieved this intention. His space-travelling Crusoe is a British rocket scientist and sole survivor of an unofficial flight which takes off from Woomera and crashes on Mars. The implausibility of this event, and of the man's survival and struggle for life on the new planet, is very cleverly concealed by the author's skill in dramatic story telling and reasoned scientific speculation. Indeed the first half of this book is an enjoyable and close parallel to the original Crusoe, right up to the impact caused by the footprint discovery. Then comes the monumental story twist, and the ingeniously contrived alienness of Martian life.

Back on the uniformly simply plane of other worldly adventure, Leigh Brackett's **The Sword Of Rhiannon** (T. V. Boardman, 9/6d) follows the Burroughs' pattern of a boringly resilient hero weaving his destiny at sword's point among the unrealistic exotica of a comic strip representation of life on Mars. But by using a little more subtlety and writing skill, Miss Brackett succeeds in beating E.R.B. at his own game. She is an old hand at this type of yarn, and her tongue must now be permanently placed in her cheek—but who cares when such stories as this will always find an appreciate audience among the avowed (and many secret) addicts of the Burroughsian novel.

Leslie Flood

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